



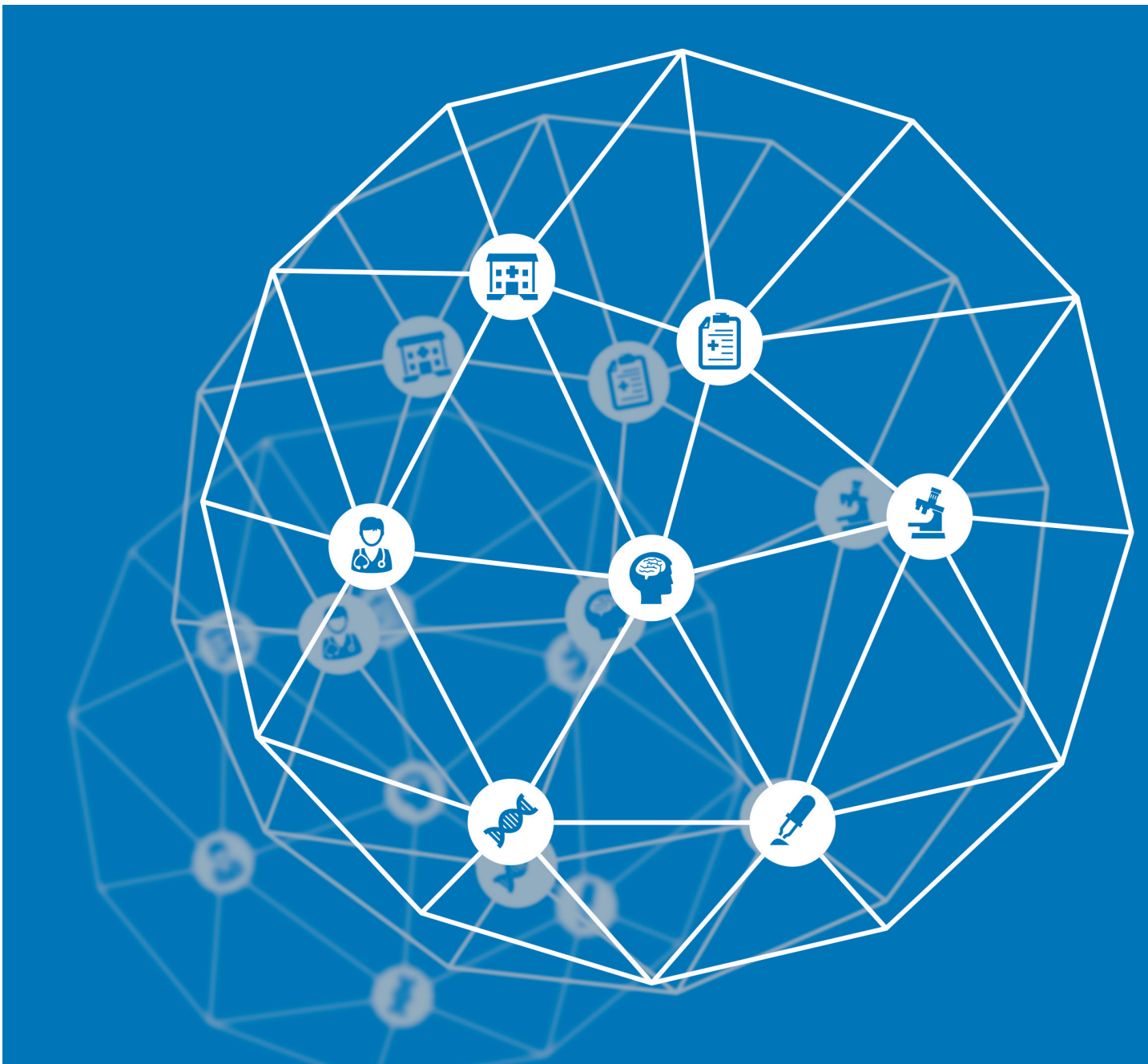
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**Medisch  
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**SONCOS**  
Stichting Oncologische Samenwerking

Platform Oncology – SONCOS

SONCOS STANDARDISATION REPORT 11 2023

# Multi-disciplinary standardisation of oncology care in the Netherlands



## Colophon

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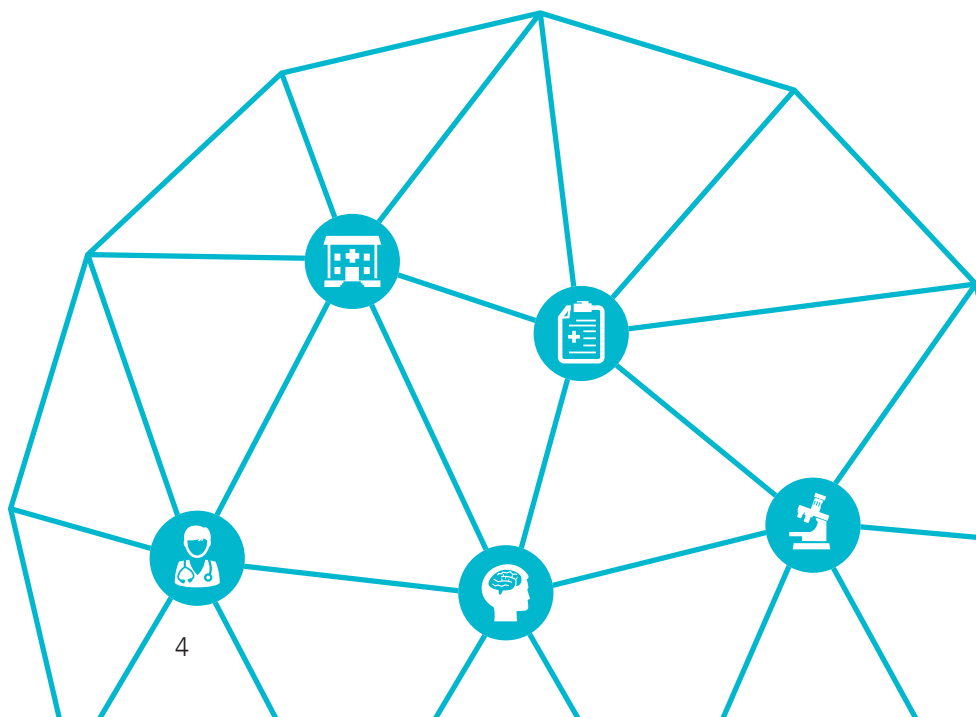


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## CHAPTER 1

# Introduction

This is the eleventh edition of the SONCOS standardisation report (2023). The first SONCOS standardisation report was published in December 2012. The report fulfilled a need by the professional organisations of surgical-oncologists (NVCO), medical-oncologists (NVMO) and radiation-oncologists (NVRO) to record the (accessory) conditions that high-quality oncology care should meet. Standardisation is not an aim in itself, but is based on the incentive by medical specialists to continuously improve the care for their patients. Therefore, professionalism is the starting point of the standards. The standards are part of the professional quality system of scientific associations of medical specialists, which also includes guidelines, quality registrations and quality visitations. However, oncology care is – due to its very nature – a multi-disciplinary field, as evidenced by the large number of disciplines represented in the Oncology platform – SONCOS and contributing to the SONCOS standards.

Oncology care is continuously subject to change, due to technical innovations, scientific insights, experiences in daily practice and consensus within the profession. For this reason, the SONCOS standardisation report is a dynamic document, which is revised annually. The aim is to promote continuous improvements in the care for oncology patients. There is a general agreement with all centres that provide oncology care, stating that they have a one-year implementation period after publication of new standards in which to comply with the new standards, unless otherwise specified in this document.

Since 2022, this report consists of 3 sections: a general section describing the requirements for oncology centres, a section on oncology networks and a tumour-specific section. The most important changes in the general section relate to the addition of standards for the structuring of the multi-disciplinary consultation (MDC). All general standards for the MDC have now been grouped together. The most significant tumour-specific change relates to the addition of standards for mesothelioma of the lung. In addition, the appendix contains a new version of the NVRO standardisation document “Quality Standards in Radiotherapy in the Netherlands” (appendix H), the role of nursing staff has been formulated more clearly in the appendix about AYA care (appendix I) and the criteria in the appendix of the NVMO about combination therapy immunotherapy have been amended (appendix L).

## CHAPTER 2

# General conditions for oncology care

This chapter describes the general conditions for oncology care in institutions. Institutions increasingly form part of oncology networks. In addition to these standards at institutional level, in 2022, for the first time, the initial steps were taken towards defining standards at the network level. For the current version of the standardisation report, the starting point is still that the standards apply at the institutional level. In future, it is conceivable that the standardisation will apply at the level of the regional network and/or tumour-type network. For more details, please refer to the Chapter “Conditions for oncology care in networks”.

### Information and organisation

A healthcare institution that provides oncology care meet the following requirements:

- The provision of information (e.g., via website) for patients, indicating the facilities and treatment options offered by the healthcare institution in question for the oncology care provided by the facility.
- The healthcare institution demonstrates their commitment to promoting a healthy lifestyle, for example by actively discouraging smoking. Each hospital that treats patients with cancer must have access to a smoking cessation outpatients’ clinic.
- The institution participates in the quality inspections deemed acceptable by the oncology professional groups.
- The institution participates in the national quality registrations approved by the oncology professional groups, with the institution complying with the minimum requirement per registration per tumour type.
- An oncology committee in which all medical, para-medical and nursing disciplines involved in the oncology care are represented. The tasks and responsibilities of the oncology committee correspond to those listed in the document “Quality Framework for Organisation of Oncology Care” (IKNL October 2014, available via [www.iknl.nl](http://www.iknl.nl)).
- A collaboration agreement with one or several reference centres for consultation and/or referral, setting out what the “service level” is, preferably in writing. For an example, visit <https://demedischespecialist.nl/normeringsrapport-van-soncos>.
- A reference centre must at least meet the standards set out in this document. It is possible that a reference centre cannot perform this task for all tumour types and therefore it may be necessary for a healthcare institution to collaborate with several reference centres to obtain the correct expertise for the healthcare provided. A reference centre must also offer second opinions and actively participate in research and education, as evidenced by participation in and initiation of scientific research, relevant publications and organisation of (supra-)regional refresher training activities.
- In the case of rare tumour entities (incidence <6 new cases per year per 100,000 people, in other words fewer than approximately 1,000 new cases per year in the Netherlands), consultation takes place with, or patients are referred to a reference centre for diagnosis, treatment plan and possible study participation. For some of these patients, the treatment plan can be performed in the reference centre.
- The waiting time for a first visit to the outpatients’ clinic for a patient with a possible malignancy is no more than one week. Processing time for diagnostics is no more than three weeks and the time between the first visit to the outpatients’ clinic and the start of the therapy is no more than six weeks. Specific times may be listed for certain types of tumours (see “specific tumour types”). If a patient is referred to another healthcare institution, this processing time may be extended by three weeks. Deviation from these deadlines is permitted with motivation in exceptional cases and in situations that are based on medical reasons. Up-to-date treatment protocols (i.e., no more than 3 years old) are followed for the conditions in question.
- Care pathways are available for frequently treated conditions (i.e., 20 or more patients per year), stating which examinations need to be performed, what the minimum processing times are, which indicators are collected and who is responsible at what point for examination and treatment plan.
- It should always be clear to the patient who the principal treating physician is, and this should be recorded in the patient’s file.

- In addition to the main treating physician, the patient also has access to at least one a case manager in the chain, such as a nurse practitioner, an oncology nurse or another healthcare provider who can fulfil the role described below:
  - This healthcare provider is part of a team in which the members are interchangeable and part of the multi-disciplinary team for diagnosis and treatment.
  - This healthcare provider oversees the entire multi-disciplinary and transmural process of diagnosis, treatment and follow-up care.
  - This healthcare provider is specialised in the field of the relevant condition (by means of an official specialisation or as a focus area).
  - This healthcare provider knows the patient in their entire context.
  - This healthcare provider functions as case manager for the patient. This means that:
    - This healthcare provider acts as an anchor for the patient during the entire process of diagnosis and treatment.
    - This healthcare provider has access to the patient's file and can be contacted easily and quickly by telephone or by email to answer questions and provide guidance for the patient and/or loved ones.
- The follow-up after initial treatment has been recorded in the treatment protocols/care pathways.
- All involved specialisms participate in a complication registration.
- A quality cycle must be in place: discussion of complications takes place at least twice a year, resulting in the implementation of improvement plans for frequent and/or severe complications. Results from the tumour-specific quality registrations mentioned in this document are discussed each quarter and improvement actions are implemented where necessary, with evaluation of the effect.
- The oncology committee of a hospital produces an annual report, which includes the reports from all tumour working groups.

### Multi-disciplinary consultation

For an MDC to function properly and efficiently, it is important to have clear agreements in place about the presence of the correct expertise and about logistical aspects regarding registration, discussion, reporting and feedback. An institution that provides oncology care should therefore meet the following conditions for the oncology MDC<sup>1</sup>:

- One or more MDCs are held with at least a weekly frequency for each (a deviation and decision to hold a fortnightly consultation is permitted for less commonly occurring tumours, provided the biological behaviour of the tumour allows for this), in which at least 90% of the patients are discussed with the option to consult the reference centre. The low-grade skin and bladder tumours are exempt from this. The patients are discussed prior to the primary treatment and in the case of primary surgical treatment they will also be discussed post-operatively to determine if adjuvant treatment is needed. Circumstances in which deviation is permitted include the primary surgical treatment of a skin lesion suspicious for melanoma, or an acute procedure due to an obstruction near a tumour in the digestive tract.
- Make arrangements with collaborating institutions in the regional network about which patient categories and medically substantive considerations (technical feasibility versus medical usefulness) will be discussed in the regional MDCs. Ensure that the required specialised expertise is present, depending on the tumour type and complexity of the patients and the matters to be discussed. Also take into consideration national examples of stratification models per tumour type.
- Make arrangements with collaborating hospitals (preferably within the own regional and/or tumour-specific network) about which expertise is required for which MDC.
- Provide evaluation moments for the entire process of the (regional) MDC and agree together how often these should take place (make these arrangements for the regional MDC within the regional network).
- In case of rare tumours where adequate expertise is not available in the region, the MDC should recommend where this patient should be referred to. Arrangements are made during the MDC about who should organise this. The MDC should also arrange a smooth transfer of relevant information.
- In the case of very rare tumours for which a national panel/MDC has been appointed, consider submitting the patient for discussion in the national panel/MDC.

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<sup>1</sup> These conditions were drawn up in the project MDO 2.0 and are based – among others – on the Generic blueprint MDC of Citrien and the Radboudumc. This blueprint can be used as a template when setting up the MDC.

- Make arrangements with collaborating hospitals (preferably within the own regional and/or tumour-specific network) about the minimum notice period for submission to the MDC.
- Make arrangements with the collaborating institutions (preferably within the own regional and/or tumour-specific network) about which information is required as a minimum for discussion within the MDC, including information about possible consequences for treatment recommendations and the way in which this information is submitted. Submission should preferably take place in digital format.
- Make arrangements about who will chair the MDC (make these arrangements for the regional MDC within the regional network). This should preferably be a medical specialist, or otherwise a specialist in training and under supervision.
- In a regional MDC, the patient will be presented by the treating physician, or another professional involved in her/his care and following an adequate transfer.
- Make clear arrangements about who will take minutes of the MDC (make these arrangements for the regional MDC within the regional network). At the very least, agreements should be in place about: unanimous conclusion/advice, presence of MDC participants, who will take care of the reporting.
  - o Ensure that the reporting can be viewed in real time during the MDC. If it is not possible for everyone to view the reporting in real time, then a summary of the conclusion per patient is essential.
  - o When drafting the diagnosis and/or optimum treatment recommendation, ensure that considerations are included in the report. This should also include if the national guideline will be followed as well as the considerations for any deviation from the guideline.
  - o The report must be included in the patient's EPD in the hospital where she/he is receiving treatment.
- Ensure that a summary of potential studies is recorded for the patient.
- Always use the confirmed MDC report, which is included in the patient's EPD, for feedback to avoid the use of several reports.
- Make arrangements about a mailing list for the MDC report and who will take care of this mailing (make these arrangements for the regional MDC within the regional network). Be sure to also include the general practitioners and (other) referring physicians. The report on the multi-disciplinary consultation should be sent to the general practitioner within 2 working days.

## Facilities

A healthcare institution that provides oncology care must have at least the following at their disposal / participate in the following:

- Adequate outpatients' clinic facilities, designed with multi-disciplinary oncology care in mind. These facilities should also provide opportunities for healthcare professionals in training to work under supervision.
- An adequately appointed oncology day clinic where systemic therapy can be administered, staffed by qualified employees, for the treatment of the condition in question, including complications. At least half of the nursing staff should be specialised as oncology nurses or should be in training to obtain this qualification. (Appendix A) In the case of an oncology treatment centre that also performs non-oncology treatments, at least half of the nursing staff that provides care to the oncology patients should be oncology nurses or should be in training to obtain this qualification. At least one oncology nurse should be on duty during each shift in the day treatment centre. Administration of oncological systemic therapy should be performed by an oncology nurse or a person in training to obtain this qualification under the supervision of an oncology nurse. An exception to this rule is bladder irrigation for a non-muscle invasive bladder cancer. Healthcare institutions have until **1 January 2023** to comply with this standard.
- Administration of oncological systemic therapy<sup>2</sup> at home should be performed by an oncology nurse or a person in training to obtain this qualification under the supervision of an oncology nurse. The records should be recorded in the EPD of the treating hospital. Healthcare institutions have until **1 January 2023** to comply with this standard.

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2 An exception applies to several low-risk treatments: thrombopoietin agonists (B02BX), erythropoietic growth factors (B03XA), somatostatin analogues (H01CB), calcium-regulating products miscellaneous (H05AA), gonadorelin agonists (L02AE), anti-oestrogens (L02BA), gonadorelin antagonists (L02BX), colony stimulating factors (L03AA), bisphosphonates (M05BA) and calcium-regulating products miscellaneous (M05BX).



- An adequately appointed inpatient ward, staffed by qualified employees, for the treatment of the condition in question, including complications. At least half of the nursing staff should be specialised as oncology nurses or should be in training to obtain this qualification. In the case of an inpatient ward that also cares for non-oncology patients, at least half of the nursing staff that provides care to the oncology patients should be oncology nurses or should be in training to obtain this qualification. At least one oncology nurse should be on duty during each shift on the ward in question. Administration of oncological systemic therapy should be performed by an oncology nurse or a person in training to obtain this qualification under the supervision of an oncology nurse. An exception to this rule is bladder irrigation for a non-muscle invasive bladder cancer. Healthcare institutions have until **1 January 2023** to comply with this standard for nursing staff.
- An exception to the aforementioned requirements regarding oncology nurses applies to day treatment centres and inpatient wards caring for neuro-oncology patients. A tailored training programme is being developed for these wards, which will provide training in both neurological and oncological expertise. In the case of neuro-oncology wards, the aforementioned standard for oncology nurses applies to these nurses trained specifically in neuro-oncology.
- If an oncology patient is admitted to an inpatient ward that is not equipped to offer oncology care as described above (e.g., an urgent admission), then consultations from suitably skilled healthcare professionals (oncology nurses, nurse practitioners, physicians) must be available.
- Each nurse who is responsible for providing care to oncology patients will demonstrate his/her up-to-date professional skills in the field of oncology nursing by participation in the V&VN quality register (Nurses and Caregivers of the Netherlands) and/or by maintaining a portfolio in their own institution.
- Accident & Emergency care where expertise in oncology care is available for all oncology patients and treatments for which the institution provides care, 24 hours per day and 7 days per week. These facilities also provide opportunities for healthcare professionals in training to work under supervision. Healthcare institutions who are unable to provide 24/7 A&E care for the patients that they treat should have arrangements in place with another healthcare institution who does offer these facilities and can provide the aforementioned care to their patients.
- An adequately equipped operating room complex with proven expertise in and facilities for all types of surgery performed on oncology patients in the healthcare institution in question.
- At least two medical-oncologists with registration in the focus area of oncology, who comply with the quality standardisation for medical-oncology. (Appendix B).
- At least two surgeons with certification in oncology or gastro-intestinal surgery.
- At least one plastic surgeon available for consultation, from a different centre if necessary.
- The medical-oncologists (or internists in training to become medical-oncologists in accordance with the aforementioned regulation) and surgeons with aforementioned certification must ensure the continuity of care of their patients, among other things by being present in the healthcare institution as consistently as possible on working days. If this physical presence is not possible, there must be an option to consult an internist-oncologist and surgeon with appropriate certification.
- At least two pulmonologists with proven expertise in the field of diagnosis and treatment of pulmonary oncology.
- For other specialisations and focus areas, at least two specialists with proven specific expertise<sup>3</sup> in the condition for which care is provided.

The following departments are available in the hospital, or collaboration agreements (SLA) with them are in place:

- A Radiotherapy department or a collaboration agreement with a radiotherapy department.
- A Radiology department, operating in accordance with the “Standards Document for the Dutch Association for Radiology” (appendix C, to be consulted via: [www.radiologen.nl](http://www.radiologen.nl)), with radiologists with a focus area in the conditions for which treatment is offered.

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3 In this document, the term “proven specific expertise” means that the specialist for the condition in question has the relevant experience and adequate training, follows further training and regularly treats/diagnoses patients with this condition at a level that is accepted by their own profession.

- o If nuclear or radiological imaging is to be discussed in an MDC, then the expertise of one person will suffice, either a radiologist with nuclear medicine expertise or a nuclear medicine specialist with radiological expertise. If the specialist does not have this relevant additional expertise, then both a radiologist and a nuclear medicine specialist should be present for the MDC.
- Nuclear Medicine department, operating in accordance with the “Quality Guidelines of the Dutch Association for Nuclear Medicine 2014”. (Appendix D).
  - o If nuclear or radiological imaging is to be discussed in an MDC, then the expertise of one person will suffice, either a radiologist with nuclear medicine expertise or a nuclear medicine specialist with radiological expertise. If the specialist does not have this relevant additional expertise, then both a radiologist and a nuclear medicine specialist should be present for the MDC.
- Pathology department, operating in accordance with the requirements of the Dutch Association for Pathology (NVVP). The department employs pathologists (so-called focus area pathologists) who meet the criteria of the NVVP for the focus areas in the disease presentations that are treated in the healthcare institutions to which services are provided. Predictive biomarker diagnostics and expertise are available for discussion in the expert teams and MDCs. (Appendix E).
- A healthcare institution must also have an adequately equipped laboratory for Clinical Chemistry, Medical Microbiology (CCKL/ISO15189 accredited) and Clinical Pharmacology.
- A Clinical Pharmacology department meets the criteria set out by the Dutch Association of Hospital Pharmacists. (Appendix F).
- The healthcare institution meets the practical field standard for “Prescription, preparation, delivery and administration of cytostatic agents”, drafted by the NVMO, NVZA, NVALT and NVVH and V&VN (version 2022), see appendix G.
- Radiotherapeutic care with fixed contacts and agreements about referral, with an established “service level”, for example the timeframe in which a patient can be seen. The Radiotherapy department meets the standards set out in the “Quality Standards for Radiotherapy in the Netherlands” (version 5.0 NVRO, 2021). (Appendix H).
- Clinical genetics with fixed contacts and agreements about referral, with an established “service level”. This should at least describe the waiting time for diagnostics and the timeframe within which the diagnostics – including discussion with the patient – can be completed. This also describes the conditions under which an urgent diagnosis can be requested.
- Psychosocial care, with an established “service level”. This should at least describe the moments at which the patients’ need for psychosocial support will be determined and how the further referral process can take place.
- A Dietetics department, with an established “service level”. This should at least describe the moments at which the patients’ nutritional status will be determined and how the further referral process to the Dietetics department can take place.
- Inpatient and outpatient Pain Team with an anaesthesiologist dedicated to oncology and nurses with a certification in pain management, with an established “service level”.
- Facilities and expertise in palliative care:
  - o The healthcare institution must have a multi-disciplinary palliative care team – both inpatient and outpatient – that works according to the palliative care guidelines ([www.pallialine.nl](http://www.pallialine.nl), 2017) and uses an instrument to gauge the need for palliative care.
  - o The multi-disciplinary team consists of at least two medical specialists and a nurse with specific expertise in palliative care. The nurse should preferably be an oncology nurse, or a nurse practitioner in oncology or anaesthesiology/pain management.
  - o At least one of the medical specialists in the multi-disciplinary team must have completed specific training in the field of palliative care. It is highly recommended that the other involved healthcare professionals also receive specific training in palliative care.
  - o If they do not already form part of the multi-disciplinary team, there is a permanent option to consult an medical-oncologist, anaesthesiologist, neurologist, pulmonologist, gastroenterologist, radiation-oncologist, clinical geriatric specialist/internist specialised in elderly care, pharmacist, psychologist, psychiatrist, pastoral carer, social worker and – if necessary – an oncology nurse, all with expertise in palliative care.
  - o The multi-disciplinary team meets on at least a weekly basis. Following the MDC, the decisions are coordinated with the general practitioner.
  - o A structured and timely transmural consultation and transfer must take place to ensure optimum palliative care in

the home situation and the general practitioner must be informed about this. The multi-disciplinary team must also be available for consultation about patients who have been discharged and are receiving palliative care at home under the supervision of the general practitioner.

- The institution has consideration for age-specific care.
  - There is a contact person for Adolescents & Young Adults (AYAs) and there is an option to refer to AYA knowledge centres where a multi-disciplinary AYA outpatients' care team is available (appendix I, [www.ayazorgnetwerk.nl](http://www.ayazorgnetwerk.nl)).
  - For the elderly, with the option to use a frailty instrument.

## Treatment and trials

A healthcare institution that provides oncology care must have at least the following at their disposal / participate in the following:

- Systemic oncology treatment (cytostatic agents, endocrine therapy, immunotherapy, biologicals) is prescribed by medical specialists with proven specific expertise in the use of the relevant treatments, including complications. If qualified to do so, the nurse practitioner with expertise in oncology may prescribe systemic oncology treatments, within the limitations specified in legislation and regulations, as well as the relevant quality requirements specified in this SONCOS standardisation (appendices J & K).
- A treatment protocol should be used for systemic therapies, which has been approved by a multi-disciplinary team, which includes at least the medical-oncologist. The treatment protocols for pulmonary oncology are exempt from this requirement, considering the specific expertise of the pulmonologists in this field.
- If immunotherapy with immune checkpoint inhibitors is used, then a medical specialist with proven specific expertise in immunotherapy must be available for the weekly MDC. In addition, the healthcare institution in question must have a multi-disciplinary team that includes – among others – a gastroenterologist, dermatologist, internist-endocrinologist, and pulmonologist, to treat side effects. A centre that administers immunotherapy in the form of immune checkpoint inhibitors must treat at least 20 patients per year with this therapy. These can be patients with different types of cancer (for example: melanoma, lung cancer, kidney cancer or bladder cancer). In addition, the minimum standards for systemic treatment of the specific tumour type must be met (see below).
- The criteria set by the NVMO need to be met for combination immunotherapy. (Appendix L) The criteria set by the NVALT apply to conditions treated by pulmonologists (see appendix M).
- Radiotherapy, including brachytherapy, is performed by a radiation-oncologist according to the quality requirements established by the NVRO.
- If chemo-radiotherapy is indicated, whether this precedes a surgical procedure or not, then it is preferable to have this treatment take place in a single institution, particularly if the treatment is given concurrently instead of sequentially. If the chemotherapy and the radiotherapy are to be administered at two separate locations, then this must be stated in the tumour care pathway. This SLA should in any case define the processing times, who is responsible for which aspects and how the medical care will be provided in the event of complications.
- The institution has access to a Nuclear Medicine department, where systemic therapies with radionuclides can be administered.
- The institution participates in patient-related scientific research in the field of oncology. The institution participates in at least 3 clinical trials, in which at least 15 patients in total are included per year, over a period of 3 years.
- The healthcare institution has the possibility to implement newly authorised treatments, which they do not have any experience in yet but for which certain requirements apply. Prior to the start of such a treatment, the team of healthcare professionals involved must acquire knowledge and experience, for example by attending information meetings and courses. The infrastructure of the healthcare institution must be (made) suitable for implementation of the new treatment, including handling of complications. An evaluation will take place after two years, during which the institution must demonstrate that they will be able to comply with the standards listed in this document for the condition and treatment in question within another period of two years, in order to be allowed to continue offering the new treatment in the healthcare institution.
- Molecular Tumour Boards are present in specialised reference centres.
- If the patient wishes to receive palliative or supportive care in a healthcare institution other than the institution where primary treatment was provided (e.g., closer to home), then this should be an option following consultation. This applies even if the desired healthcare institution does not offer the primary treatment in question (e.g., palliative chemotherapy for metastasised oesophageal cancer in a healthcare institution that does not offer oesophageal surgery).

## CHAPTER 3

# Conditions for oncology care in networks

The standards in this chapter apply as of **1 January 2024**. With this chapter, the Oncology – SONCOS platform aims to substantiate a movement that has already been started by taking the first step towards standardisation and simultaneously stimulating this movement. The Integral Healthcare Agreement 2022 also formulated the formation of networks in oncology care as the most important task for the years ahead, in order to achieve a further improvement in quality<sup>4</sup>. We will continue to develop the standards for oncology networks with parties in the field and include aspects such as feasibility and rationality where applicable.

### Background

The number of patients with cancer will continue to increase in the years ahead and the challenges facing oncology care remain undiminished. Patient care is becoming increasingly personalised, is continuously developing and the medical capabilities are becoming increasingly complex. In order to continue offering optimum and state-of-the-art treatment to people with cancer in the future, collaboration – in networks were necessary – is essential to ensure optimum quality, accessibility, and availability of oncology care. Network-based medicine is not a unique development in oncology care but is broadly visible in all healthcare domains<sup>5</sup>.

An oncology network develops from natural collaboration relationships between institutions, in line with the flows of patients in a certain area. In regional oncology networks, the partners organise the network at the level of management, professionals (tumour-type networks) and facilities (IT, communication, etc.). The regional oncology network offers coherent and transparent care and collects quality and operational information (transcending the various tumour-type networks) in order to monitor the quality of the oncology care and to guarantee the coherence through training, research and innovation. Tumour-type networks can be established within the regional networks, but they can also transcend the boundaries of the regional network. The organic development of the networks is an important starting point. The Netherlands already has several regional oncology networks<sup>6</sup>. These regional oncology networks vary in their level of organisation and the range of care offered in the network. Healthcare providers and healthcare professionals are working together to ensure further development of the oncology networks, both in terms of care and at an organisational level. Close alignment and collaboration with healthcare insurance companies and other involved parties is important in the stimulation and facilitation of this movement. In addition, as mentioned in the Integral Healthcare Agreement 2022, the prerequisites – such as appropriate budgeting for networks and data exchange – must also be arranged.

### Vision for the future

This chapter was first written in 2021 to describe the standards for regional oncology networks and tumour-type networks, based on what already happens in existing networks. This first step aims to stimulate and facilitate the development of professional oncology networks. The starting point is always high-quality care, appropriate to the (context of the) patient. This vision must allow for differences in development and composition of the networks, but an overarching standardisation of – for example – governance and quality of care is desirable to ensure a minimum standard of work in oncology networks.

The starting point for this standardisation report remains that the standards apply at the institutional level. In future, it is conceivable that the standardisation will apply at the level of the regional network and/or tumour-type network.

4 Integral Healthcare Agreement (September 2022), <https://www.rijksoverheid.nl/documenten/rapporten/2022/09/16/integraal-zorgakkoord-samen-werken-aan-gezonde-zorg>

5 Also refer to Medical Specialist 2025, Federation of Medical Specialists (2017)

6 Overview of existing regional oncology networks: <https://www.oncologienetwerken.nl/thema/oncologienetwerken>

This is currently not the case, but this is a topic of discussion. In optimum network care, the collaborating institutions within the network are jointly responsible for the range and quality of the oncology care. The option to treat patients with an exceptional, specific care need at a different location within or beyond the network will always need to remain available. This means that such specific treatments can take place as an exception at a location that does not comply with the volume standard. It is conceivable that the MDC will act as a controlling forum that monitors these exceptional situations.

The initial steps towards standardisation of regional oncology networks and tumour-type networks were taken in the standardisation report of 2022. This new report offers the next step in achieving an integral supply of oncology care within networks. These standards for oncology networks are currently limited to collaboration between healthcare professionals and healthcare providers in the secondary and tertiary care setting, with a view to expanding these standards in due course to collaboration between healthcare professionals and healthcare providers in the entire care pathway. There is also some overlap with the existing standards at an institutional level. The challenge for the forthcoming period is to draw up a set of standards that can really be applied at the network level and can be contracted as such, whilst taking into consideration the different rates of development and organisation between networks. The set of standards in its current formulation is primarily aimed at stimulating and directing the move towards network collaboration. Healthcare professionals, healthcare providers and healthcare insurance companies can use the set of standards to hold local/regional discussions and – where possible – to reach agreements on contracting. This will always depend on the developments and level of professionalism of the network.

### Standards for regional oncology networks

In a regional oncology network, two or more institutions collaborate at a managerial and professional level to facilitate, guarantee and monitor the care provision, the quality and the continuity of oncology care in the region in an overarching manner that transcends the tumour-type networks. A regional oncology network is based on the natural collaboration between institutions and is not categorised geographically.

The regional oncology network includes reaching, recording and guaranteeing agreements about a joint ambition and vision for oncology care, coherence and harmonisation of the oncology care provision by the various providers within the network, the generation of quality information, data exchange, any contracting agreements and investments, transcending the complete oncology care provision in the region.

Compliance with the following standards is required in order to offer high-quality oncology care to the patient as a regional network:

- All institutions in the network must comply with the general standards in the SONCOS standardisation report.
- The institution forms part of one or more regional oncology networks.
- Agreements have been reached, recorded and guaranteed within the regional oncology network, to ensure a smooth transition of patients within and between (tumour-type) networks.
- Agreements are reached, recorded and guaranteed within the regional oncology network about the discussion of (categories of) patients in the MDCs and about the required presence of specific expertise and consultation between institutions, depending on the tumour type and complexity of the (categories of) patients, in accordance with the agreements that have been recorded in this respect per tumour type.<sup>7</sup>
- Agreements have been reached, recorded and guaranteed within the regional oncology network between the participating institutions to ensure that healthcare professionals can move through the network to ensure optimum use of expertise and organisation of care and to deliver the care as close to the patient as possible.
- The regional oncology network guarantees the participation from the patient's perspective in the organisation and the development of the network as a whole.
- The regional oncology network has formulated and guaranteed a joint, overarching ambition/vision for the oncology care in the region.

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<sup>7</sup> Stratification of MDCs will be worked out in the project MDO 2.0. Therefore, please refer to the results of MDO 2.0 for this standard.

- The oncology network organises the managerial tasks and organisational support for the network as a whole. This concerns overarching tasks, transcending the individual hospitals, that are important for the functioning and development of the network as a whole. In other words, this pertains to the governance structure of the regional network.
- The oncology network has collaboration agreements at a managerial and professional level about:
  - Quality of care / care standards
  - Admission of new parties / composition of the network (agreements about durability)
  - Tasks within the network
  - Support of the network
  - Data exchange
  - Financial agreements (for example, about offsetting, contracting and funding governance)
  - Accountability within the network and externally.
- The network has a joint network oncology committee, consisting of mandated representatives from the oncology committees of the participants in the network. This committee compares/follows the oncology quality policy of the parties and of the various tumour-type networks and advises the general management of the regional oncology network about the unification of the quality policy and the care.
  - The network oncology committee produces an annual report, which includes the reports from all tumour-type networks.
- The regional oncology network ensures a clear supply of information for patients about the oncology care in the network, in accordance with the existing SONCOS standard.
- Participating institutions contribute to a joint quality policy of the oncology network, based on their own quality policy, to learn and to improve and to ensure compliance with the national quality standards. The network quality policy includes agreements about participation in registration and audits, the discussion of quality and epidemiological registrations, the registration of complications and contribution to the development of new quality information.
- The regional oncology network promotes and facilitates participation in patient-related, scientific oncology research within the (national) tumour-type networks.
- The regional oncology network has a joint vision and method to ensure a strong interaction between and joint participation in care, research, education (including further training) and innovation.

### Standards for tumour-type networks

A tumour-type network is a collaborative arrangement between two or more institutions, aimed at organising the care for patients with a certain type of tumour to offer the best possible quality and continuity. The tumour-type network has formulated their ambition for the patient group/tumour type in question in a shared vision regarding care organisation and care outcomes, such as survival and quality of life and is transparent about this ambition and the current situation.

Compliance with the following standards is required in order to offer high-quality oncology care to the patient as a tumour-type network:

- The institution is part of one or more tumour-type networks.
- All institutions in the network must comply with the general and tumour-specific standards in the SONCOS standardisation report.
  - As far as the volume standards are concerned, the existing volume standards per institution form the starting point. However, if the patient requires specific expertise due to an exceptional, specific care need, then this care can be provided in a reference centre for that specific care need<sup>8</sup>. This means that such specific treatments can take place as an exception in an institution that does not comply with the volume standard for that tumour type. The MDC oversees the setting of the indication and the quality of the treatment.

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<sup>8</sup> For example: a patient has breast cancer and haemophilia. Due to this specific care need, the breast cancer treatment should preferably take place in the haemophilia centre, instead of the reference centre for breast cancer.

- In addition to the existing SONCOS standards regarding referral, the tumour-type network has agreements in place about the referral (waiting time, how, referral information, etc.) between the participating hospitals within the network. A hospital can participate in several tumour-type networks and should then have the aforementioned agreements in place for all these networks.
- The tumour-type network defines and standardises care pathways for the treatment of a tumour type, in accordance with the national guidelines.
- In accordance with the SONCOS standard for a fixed contact, the network has agreements in place about having and communicating with a fixed contact per patient in the entire network. The agreements must ensure that the patient has a clear point of contact throughout their journey through the network.
- All the information required by healthcare professionals and patients is available throughout the tumour-type network. To this end, agreements are reached, recorded and guaranteed about communication between institutions, the infrastructure to be used, data exchange and feedback.
- In liaison with the regional oncology network, the tumour-type network participates in patient-related, scientific oncology research and is aware of all ongoing clinical trials at a national level for that specific tumour type.



## CHAPTER 4

# Conditions for oncology care for specific tumour types

## BONE AND SOFT TISSUE TUMOURS

### Bone tumours

Considering the very rare nature of these tumours and the official existence of reference centres in the Netherlands for bone tumours, patients should be referred to one of these centres. The diagnosis and treatment of primary bone tumours should take place in one of these reference centres, in accordance with the recommendation drafted in the local MDC in this reference centre, or the recommendation by the committee for bone tumours.

### Intermediate and malignant soft tissue tumours

Soft tissue tumours form a heterogeneous group of rare tumours, with more than 50 histological sub-types and for which increasing numbers of medicinal treatments are being developed that are targeted to a specific tumour type. Both diagnosis and treatment require specific expertise that are available in a limited number of reference centres.

The following requirements apply to the diagnosis and treatment of soft tissue tumours:

#### General hospitals

- The option to perform a histological biopsy under ultrasound or CT guidance.
- MRI technology is available, with the MRI scan assessed by a radiologist with knowledge in the field of soft tissue tumours.
- The institution has access to a Nuclear Medicine department with a PET/CT scanner.
- The institution has a pathology department with proven, specific expertise in the field of sarcomas, including molecular diagnostics. The pathology department has the ability to offer NGS.
- There are permanent contacts with a reference centre with proven specific expertise in soft tissue sarcomas. Agreements need to be made with this reference centre regarding the diagnostics (e.g., molecular diagnostics and NGS) and treatment of new and existing patients.
- The institution has a multi-disciplinary sarcoma MDC, for the discussion of diagnostics and treatment policy, at least consisting of a surgical oncologist, medical-oncologist, radiologist, radiation-oncologist, pathologist, case manager and any other relevant nurses.
- This MDC takes place once a week, in which all patients are discussed with the reference centre prior to treatment, or the decision is made to refer patients to the reference centre for an initial recommendation.
- All sarcomas with a gynaecological origin are referred to the gynaecological oncology treatment centre and are discussed in both the MDC for gynaecological oncology and the MDC for sarcoma.
- Following treatment/surgery, the patient will again be discussed in the MDC. If a neo-adjuvant therapy has taken place, then the evaluation of the treatment will be discussed with the reference centre in a timely manner.
- Operations will be performed by a certified surgical oncologist, or by an orthopaedic surgeon, head & neck surgeon, neurosurgeon or gynaecologist specialised in sarcomas.
- At least 20 patients per year receive primary surgical treatment for new, malignant soft tissue tumours.
- The decision about radiotherapeutic and/or systemic treatment, including the institution where this will be administered, is made in consultation with the reference centre.
- A documented consultation with a reference centre must take place in the case of a local recurrence or metastases.
- In the case of patients with GIST, a documented consultation must take place prior to the treatment with a sarcoma MDC or a member of the MDC at a reference centre.



- In addition to the general criteria for a reference centre, a sarcoma reference centre must discuss at least 100 new patients per year with pathologically confirmed GIST and/or soft tissue tumours (= intermediate tumours and sarcomas) in their sarcoma MDC.
- The recommendations formulated in this MDC for diagnosis and treatment (including the institution where the treatment will take place) are binding.

## SKIN TUMOURS

### Melanoma

Stage 0 melanomas and the T1a melanoma of stage IA do not fall under the SONCOS standardisation, as there is no indication for sentinel node biopsy or follow-up due to the excellent prognosis. For the other melanomas stage I and II, the SONCOS criteria apply to a limited extent, because there is an indication for a sentinel node biopsy, but the negativity of this biopsy means that this follow-up can generally be performed by the dermatologist and no further investigations are indicated.

For the surgical treatment of malignant melanoma stage III/IV, a healthcare institution must have access to/comply with the following conditions:

- The institution has easy access to a dermatology department with proven specific expertise in the field of melanoma, with an established "service level". The institution has a pathology department with proven, specific expertise in the field of melanoma and access to all the required technology.
- The institution has access to a Nuclear Medicine department with a PET/CT facility.
- The institution has access to a Nuclear Medicine department that can perform the sentinel node procedure for melanoma patients.
- There are at least two surgeons with proven specific expertise in performing sentinel node biopsies at locations specific to melanoma. The institution has an operating room with adequate facilities, including a gamma probe. Operations are performed by a certified surgical-oncologist.
- At least the following specialists should be present during the weekly multi-disciplinary consultation: surgeon, medical-oncologist, radiologist/nuclear medicine specialist, radiation-oncologist, pathologist, case manager and/or oncology nurse and/or oncology nurse practitioner and any other relevant nurses. An option must be available to include a weekly consultation with a representative from the melanoma centre in this consultation meeting.
- The melanoma centre must be consulted prior to the treatment of patients with stage III. Patients with stage IV should be referred to the melanoma centre.
- All melanomas with a gynaecological origin are referred to the gynaecological oncology treatment centre and are discussed in both the MDC for gynaecological oncology and the MDC for melanoma.
- Isolated extremity perfusions or infusions can only take place if the healthcare institution performs at least 10 of these procedures per year.

For the systemic treatment of malignant melanoma regardless of staging, a healthcare institution must have access to/comply with the following conditions, in addition to meeting the aforementioned criteria:

- Systemic treatment of patients with a melanoma (regardless of staging) can only take place in a melanoma centre or in a healthcare institution with the official status of a partner of a melanoma centre, as defined in 2012.
- A melanoma centre has at least two medical-oncologists with proven specific expertise in immunotherapy and targeted therapy. In addition, a melanoma centre has proven involvement in the initiation of new diagnostics and/or treatment options in the field of melanoma.
- A melanoma centre treats at least 20 patients with metastasised melanoma per year.
- A partner of a melanoma centre must meet the same criteria as a melanoma centre but does not have to be involved in the initiation of research into new diagnostics and/or treatment methods for metastasised melanoma. The partner must have written working agreements in place with a melanoma centre. These working agreements state – among other things – that a partner healthcare institution will consult the melanoma centre via a multi-disciplinary consultation about a patient prior to a new treatment.

- The melanoma centre and the partner healthcare institution will maintain a registry of all their patients with metastasised melanoma (Dutch Melanoma Treatment Registry, DMTR)
- In consultation with a melanoma centre, the decision can be made that a patient with a metastasised melanoma and no further treatment options can receive treatment in the form of chemotherapy or supportive care in a non-partner institution. The melanoma centre will also maintain a registry for these patients.

## ENDOCRINE AND NEURO-ENDOCRINE TUMOURS

### Neuro-endocrine tumours

Neuro-endocrine tumours (including the high-grade neuro-endocrine tumours, the so-called neuro-endocrine carcinomas) form a heterogeneous collection of tumours for which the primary tumour can occur in various locations in the body, most frequently in the lungs, thymus, gastrointestinal system and pancreas. These tumours can form part of a genetic syndrome. Considering the rare nature of these tumours, these patients should preferably be discussed with one of the reference centres. Patients with metastatic neuro-endocrine tumours should always be discussed with and preferably treated by the reference centres. The neuro-endocrine tumours of the lung and small-cell lung cancers fall beyond the scope of this standardisation and are instead subject to the conditions stipulated in the chapter on lung cancer.

A reference centre must have access to/comply with the following conditions:

- At least two certified gastroenterologists, with expertise in endoscopic ultrasound, two surgeons, two radiologists, one nuclear medicine specialist, one pathologist, one radiation-oncologist, one medical-oncologist, one endocrinologist, one pulmonologist, one anaesthetist, one nurse practitioner, all with proven specific expertise in neuro-endocrine tumour pathology.
- Multi-slice CT and MRI are available, with defined periods within which the CT or MRI can be performed, evaluated and reported on by a radiologist with the required focus area.
- Double balloon enteroscopy is available, or the patient can be referred to a centre where double balloon enteroscopy can be performed.
- The institution has access to a Nuclear Medicine department with availability of tumour-specific tracers.
- At least the following specialists with proven specific expertise should be present during the weekly multi-disciplinary consultation: surgeon, gastroenterologist, internist (endocrinologist/oncologist), pulmonologist (for the patients for whom this is relevant), radiologist/nuclear medicine specialist, radiation-oncologist (for the patients for whom this is relevant), pathologist, case manager and/or nurse practitioner.
- Operations will be performed by a certified GE surgeon or surgical-oncologist. Operations for neuro-endocrine tumours in the adrenal glands are performed by a urologist or a certified surgical-oncologist.
- A reference centre sees at least 50 new patients per year.
- Surgery for pancreatic neuro-endocrine tumours must take place in a centre that also satisfies the requirements for surgery for pancreatic cancer.

An option exists to treat patients with metastasised neuro-endocrine tumours in a non-reference centre. In this situation, the patient's case should always be submitted to a reference centre. The reference centre will then decide whether the patient should be referred after all, or whether treatment can take place in the non-reference centre and what the treatment should consist of (including follow-up, evaluation and further consultation with the reference centre). This advice is binding. In this context the institutions can opt for shared treatment, in which a patient is evaluated at set times, consultation with the reference centre takes place and the treatment is continued at the non-reference centre. In a non-reference centre, the care for patients with neuro-endocrine tumours is coordinated by one specialist with specific expertise in neuro-endocrine tumour pathology. This centre must have access to the aforementioned imaging facilities (CT, MRI and nuclear medicine scans).

## Thyroid cancer

For the treatment of thyroid cancer, a healthcare institution must have access to/comply with the following conditions:

- Patients are discussed in a multi-disciplinary consultation, both prior to and after the treatment or surgery, with this consultation taking place at least once every two weeks. The following specialists must be present for this consultation: (endocrine) surgeon, internist-endocrinologist, pathologist, radiologist / nuclear medicine specialist, anyone with proven specific expertise in the field of endocrine pathology.
- Level 1 and Level 2 healthcare institutions are currently involved in the treatment of thyroid cancer.
- In a Level 1 healthcare institution, the thyroid cancer team consists of at least two surgeons with proven expertise in the field of thyroid surgery, two internist-endocrinologists with proven specific expertise in the treatment of thyroid cancer, two nuclear medicine specialists, a pathologist with proven specific expertise in thyroid cancer, a radiologist, a radiation-oncologist, a medical-oncologist. A Level 1 healthcare institution performs at least 20 operations per location per year for (para)thyroid abnormalities and “state-of-the-art” neck gland dissections or surgeries due to a locoregional recurrence.
- A Level 2 healthcare institution complies with almost all of the conditions of a Level 1 healthcare institution. However, the treatment team only requires 1 surgeon with proven expertise in the field of thyroid surgery. A Level 2 healthcare institution performs at least 20 operations per location per year for (para)thyroid abnormalities.
- Surgical treatment for proven or suspected lymph node metastases should be performed in a Level 1 healthcare institution. The surgical treatment of a medullary or anaplastic thyroid cancer and thyroid cancer in children should be performed in a Level 1 healthcare institution with proven specific expertise.
- In the event of thyroid cancer, the treatment with I-131 takes place in the healthcare institution where the relevant surgical treatment also took place. If the healthcare institution in question does not have the facility to administer I-131, then they should have a service level agreement in place with a healthcare institution that does offer this facility, including thyroid surgery. This agreement should record that the arrangements made during the multi-disciplinary consultation will be observed. The processing times should also be recorded in this agreement.
- A healthcare institution that administers I-131 to patients with thyroid cancer should perform at least 10 of these I-131 treatments per year.
- The follow-up of patients who have been treated for thyroid cancer should be performed by an internist-endocrinologist with proven specific expertise in thyroid cancer.
- The start of systemic therapy other than I-131 for metastatic, irresectable thyroid tumours should take place in centres of expertise.

## Adrenal tumours

- Adrenal patients (Incidentaloma/Cushing/(malignant) Pheochromocytoma/Conn’s syndrome/adrenocortical carcinoma) are discussed in a multi-disciplinary consultation, both prior to and after the treatment or surgery, with this consultation taking place at least once every two weeks. The following specialists must be present for this consultation: (endocrine) surgeon, internist-endocrinologist, pathologist, nuclear medicine specialist, radiologist, all with proven specific expertise in the field of endocrine pathology.
- There are at least two surgeons or urologists, one radiologist, two nuclear medicine specialists, one pathologist, two internist-endocrinologists, all with proven specific expertise in tumour pathology of adrenal tumours.
- A close and formalised collaboration exists with the endocrinology and nuclear medicine departments.
- In the case of adrenal surgery, a minimum of 10 operations (for benign and malignant conditions) must be performed per location per year.

## Other endocrine tumours

In order to perform endocrine surgery, a healthcare institution must have access to/comply with the following conditions:

- Patients are discussed in a multi-disciplinary consultation, both prior to and after the treatment or surgery, with this consultation taking place at least once every two weeks. The following specialists must be present for this consultation: (endocrine) surgeon, internist-endocrinologist, pathologist, nuclear medicine specialist, radiologist, all with proven specific expertise in the field of endocrine pathology.
- (Neo-)adjuvant therapy is available.
- There is access to peri-operative scintigraphy/gamma probe, ultrasound and/or rapid PTH measurement.

- There are at least two surgeons, one radiologist, two nuclear medicine specialists, one pathologist, two internist-endocrinologists, all with proven specific expertise in endocrine tumour pathology.
- A close and formalised collaboration exists with the endocrinology and nuclear medicine departments.

## GASTROENTEROLOGY TUMOURS

### Oesophageal and stomach cancer

For the treatment of oesophageal and stomach cancer, a healthcare institution must have access to/comply with the following conditions:

- The institution has an adequately equipped endoscopy department (according to the requirements set by the NVMDL), with a “recovery room” for monitoring after a diagnostic or therapeutic procedure.
- Oral endoscopic ultrasound is available.
- There are at least two certified gastroenterologists with experience in interventional endoscopy (dilatations, stent placement, oral endoscopic ultrasound).
- Both oncological oesophageal surgery and oncological stomach surgery are performed by at least two certified surgeons with proven specific expertise in oesophageal/stomach surgery. The other specialisations involved – such as anaesthesiology and interventional radiology – also have at least two specialists with proven specific expertise in the care of patients during oncological oesophageal/stomach surgery.
- An interventional radiologist skilled in performing interventions on patients with complications following major gastrointestinal and oncological procedures is available 24 hours per day, 7 days per week.
- The institution has access to a Nuclear Medicine department with a PET/CT facility.
- Peri-operative chemo/immunotherapy and chemo/radiotherapy are available. Following consultation with the healthcare institution where the operation was performed, the medicinal treatment can take place in the referring healthcare institution. Imaging studies for evaluation purposes will be discussed in the multi-disciplinary consultation of the healthcare institution where the operation is to be performed, also to determine follow-up care. The healthcare institutions in question must have a service level agreement in place for this purpose.
- Stomach surgery should preferably take place in centres where oesophageal surgery is also performed. If a healthcare institution only performs stomach resections, then they must have a fixed contact with a centre that performs oesophageal surgery, for consultation and possible referral of patients with a tumour for which it is not possible to determine pre-operatively whether it is an oesophageal or stomach cancer.
- The institution has an intensive care unit with staff who are skilled in caring for patients following major gastrointestinal and oncological procedures.
- At least the following specialists should be present during the weekly multi-disciplinary consultation: surgeon, gastroenterologist, medical-oncologist, radiologist/nuclear medicine specialist, radiation-oncologist, pathologist, case manager and/or oncology nurse and/or oncology nurse practitioner and any other relevant nurses. An option must be available to include a weekly consultation with a representative from the reference centre in this consultation meeting.
- At least 20 oesophageal resections for oesophageal cancer are performed per location, per year.
- At least 20 stomach resections for stomach cancer are performed per location, per year.
- Specific, rarely used procedures (such as colon interpositions) are concentrated in a few centres in the Netherlands and the patients are referred to these centres.
- The institution takes part in the Dutch Upper GI Cancer Audit (DUCA).

### Liver and proximal bile duct tumours

#### Primary liver tumours

A patient with a primary liver tumour (hepatocellular carcinoma (HCC), intrahepatic cholangiocarcinoma (iCC) or perihilar cholangiocarcinoma (pCC)), should be discussed in an MDC in a reference centre and she/he should be seen at least once by a treating physician who forms part of this MDC. The MDC has adequate expertise and therefore participation of the following persons is mandatory:

- at least one surgeon with proven specific expertise in liver surgery in patients with advanced liver fibrosis / liver cirrhosis.
- at least one gastroenterologist with specific expertise in the field of hepatology.

- at least one interventional radiologist with proven expertise in percutaneous vascular and non-vascular treatments in patients with advanced liver fibrosis / liver cirrhosis.
- at least one diagnostic radiologist with the relevant focus area (this role could also be fulfilled by the interventional radiologist).
- at least one internist-oncologist with proven specific expertise.
- When discussing patients with a cholangiocarcinoma, at least one certified gastroenterologist with experience in interventional endoscopy (ERCP with stent placement) must be present.
- The preferred situation is to have participation of a pathologist and a radiation-oncologist with proven specific expertise in hepatic and bile duct tumours.

Treatment of HCC, iCC and pCC takes place in a reference centre. This can be a treatment centre affiliated with the reference centre, with agreements recorded in a service level agreement (SLA).

For resection of HCC, iCC and pCC, a healthcare institution must comply with at least the following conditions.

- Multi-slice CT and MRI are available, with defined periods within which the CT or MRI can be performed, evaluated and reported on by a radiologist with the required focus area.
- An interventional radiologist skilled in performing interventions on patients with complications following major gastrointestinal and oncological procedures is available 24 hours per day, 7 days per week.
- The institution has a liver surgery team, consisting of at least two surgeons with proven specific expertise in liver surgery, at least one gastroenterologist with specific expertise in the field of hepatology, two interventional radiologists, all with proven specific expertise in liver and bile duct tumours.
- At least 20 liver resections are performed per location, per year. In the case of patients with advanced liver fibrosis / liver cirrhosis, the course of action is coordinated with a liver transplant centre.
- There are facilities available to conduct a peri-operative ultrasound of the liver.
- The healthcare institution has the facilities to perform interventional ERCPs.
- The institution has an intensive care unit with staff who are skilled in caring for liver patients following major gastrointestinal and oncological procedures.
- The institution takes part in the Dutch Hepato Biliary Audit (DHBA) for the liver resections.

In order to be able to perform ablations and transarterial therapies as a treatment for HCC, iCC and pCC, a healthcare institution must comply with at least the following conditions.

- CT and MRI are available, with defined periods within which the CT or MRI can be performed, evaluated and reported on by a radiologist with the required focus area.
- An interventional radiologist skilled in performing interventions on patients with complications following major gastrointestinal and oncological procedures is available 24 hours per day, 7 days per week.
- The institution has a team, consisting of at least two interventional radiologists with proven specific expertise in radiological interventions in patients with advanced liver fibrosis / liver cirrhosis (in the case of ablations, this expertise can also be contributed by a surgeon), at least one surgeon with proven specific expertise in liver surgery in patients with advanced liver fibrosis / liver cirrhosis and at least one gastroenterologist with specific expertise in the field of hepatology. If a centre performs radio-embolization's, then the team should also include a nuclear medicine specialist with proven expertise in this area.
- At least 10 percutaneous ablations are performed per location, per year on patients with advanced liver fibrosis / liver cirrhosis.
- At least 10 percutaneous transarterial therapies are performed per location, per year on patients with advanced liver fibrosis / liver cirrhosis.
- The institution has an intensive care unit with staff who are skilled in caring for liver patients following oncological procedures.

Aftercare:

Following surgical or radiological interventions in patients with advanced liver fibrosis/cirrhosis, aftercare is performed by a specialist with experience in hepatological care. This can be either in a referring centre or in the centre where the intervention was performed.

In order to perform systemic therapies as a treatment for HCC, iCC and pCC, a healthcare institution must comply with at least the following conditions:

- The decision about radiotherapeutic and/or systemic treatment, including the institution where this will be administered, is made in consultation with the reference centre.

### Secondary liver tumours

Secondary liver tumours are liver tumours that did not develop primarily in the liver but have metastasised to the liver from elsewhere in the body.

In order to perform liver and bile duct surgery, a healthcare institution must comply with all the conditions set for the treatment of colorectal cancers and must also have access to/comply with the following conditions:

- The institution has a liver surgery team, consisting of at least two surgeons with proven specific expertise in liver surgery, at least two certified gastroenterologists with experience in interventional endoscopies (ERCP with stent placement), at least one gastroenterologist with specific expertise in the field of hepatology, two interventional radiologists, one pathologist, one radiation-oncologist, one medical-oncologist and one nuclear medicine specialist, all with proven specific expertise in liver and bile duct tumours.
- An interventional radiologist skilled in performing interventions on patients with complications following major gastrointestinal and oncological procedures is available 24 hours per day, 7 days per week.
- There are facilities available to conduct a peri-operative ultrasound of the liver.
- The healthcare institution has the facilities to perform interventional ERCPs.
- There are facilities for non-surgical focal therapy of the liver, such as radiofrequency ablation (RFA), high intensity focused ultrasound (HIFU) and/or stereotactic body radiation therapy (SBRT).
- With permission from the healthcare institution where the operation was performed, the medicinal treatment can take place in the referring healthcare institution. Imaging studies for evaluation purposes will be discussed in the multi-disciplinary consultation of the healthcare institution where the operation is to be performed, also to determine follow-up care. The healthcare institutions in question must have a service level agreement (SLA) in place for this purpose.
- At least the following specialists should be present during the weekly multi-disciplinary consultation: surgeon, gastroenterologist, medical-oncologist, radiologist, nuclear medicine specialist, radiation-oncologist, pathologist, case manager and/or oncology nurse and/or oncology nurse practitioner and any other relevant nurses. An option must be available to include a weekly consultation with a representative from the reference centre in this consultation meeting.
- The institution has an intensive care unit with staff who are skilled in caring for patients following major gastrointestinal and oncological procedures.
- At least 20 liver/bile duct resections are performed per location, per year.
- Specific and rarely occurring conditions (such as proximal bile duct tumours) are concentrated in a few centres in the Netherlands and the patients are referred to these centres.
- The institution takes part in the Dutch Hepato Biliary Audit (DHBA).
- Operations are performed by a certified surgical-oncologist or a certified gastrointestinal surgeon.

### Pancreatic / distal bile duct cancer

In order to treat pancreatic cancer, a healthcare institution must comply with the following conditions:

- The institution has an adequately equipped endoscopy department (according to the requirements set by the NVMDL) with the option to perform interventional ERCPs and with a "recovery room" for monitoring after a diagnostic or therapeutic procedure.
- Oral endoscopic ultrasound, both diagnostic and therapeutic, is available.
- There are at least two certified gastroenterologists with experience in interventional endoscopy (ERCP, dilatations, stent placement, oral endoscopic ultrasound).
- Pancreatic cancer surgery is performed by at least two certified surgeons with proven specific expertise in pancreatic cancer surgery. The other specialisations involved – such as anaesthesiology and interventional radiology – also have at least two specialists with proven specific expertise in the care of patients during pancreatic surgery.
  - An interventional radiologist skilled in performing interventions on patients with complications following major gastro-intestinal and oncological procedures is available 24 hours per day, 7 days per week.

- The institution has access to a Nuclear Medicine department with a PET/CT facility.
- Neo-adjuvant and peri-operative chemotherapy and radiotherapy are available. The medicinal treatment generally takes place in the referring centre. The referring centre will be informed if there are any arguments that warrant a deviation from this. Imaging studies for evaluation purposes will be discussed in the multi-disciplinary consultation of the healthcare institution where the operation is to be performed, also to determine follow-up care. The healthcare institutions in question must have a service level agreement in place for this purpose.
- The institution has an intensive care unit with staff who are skilled in caring for patients following major gastro-intestinal and oncological procedures.
- At least the following specialists should be present during the weekly multi-disciplinary consultation: surgeon, gastroenterologist, medical-oncologist, radiologist, radiation-oncologist, pathologist, case manager and/or oncology nurse and/or oncology nurse practitioner and any other relevant nurses. An option must be available to include a weekly consultation with a representative from the reference centre in this consultation meeting.
- At least 20 pancreaticoduodenectomies are performed per location, per year.
- Specific, rarely occurring conditions (such as hilus tumours) are concentrated in a few centres in the Netherlands and the patients are referred to these centres.
- The institution takes part in the Dutch Pancreatic Cancer Audit (DPCA).

### Colorectal cancer

For the treatment of colorectal cancer, a healthcare institution must have access to/comply with the following conditions:

- The institution has an adequately equipped endoscopy department (according to the requirements set by the NVMDL), with a "recovery room" for monitoring after a diagnostic or therapeutic procedure.
- At least two certified gastroenterologists (or one gastroenterologist and one internist with a valid certification to perform endoscopies), two surgeons, two radiologists, one pathologist, one radiation-oncologist, one medical-oncologist, all with proven specific expertise in colorectal pathology.
- Multi-slice CT and MRI are available, with defined periods within which the CT or MRI can be performed, evaluated and reported on by a radiologist with the required focus area.
- An interventional radiologist skilled in performing interventions on patients with complications following major gastro-intestinal and oncological procedures is available 24 hours per day, 7 days per week.
- The institution has access to a Nuclear Medicine department with a PET/CT facility.
- Written agreements are in place about genetic counselling and testing, including fast-track diagnostics, in which at least the processing times are recorded.
- Neo-adjuvant (chemo)radiotherapy is available, and a care pathway has been established for this.
- The institution has a stoma outpatients' clinic with a stoma nurse.
- At least the following specialists should be present during the weekly multi-disciplinary consultation: surgeon, gastroenterologist, medical-oncologist, radiologist/nuclear medicine specialist, radiation-oncologist, pathologist, case manager and/or oncology nurse and/or oncology nurse practitioner and any other relevant nurses. An option must be available to include a weekly consultation with a representative from the reference centre in this consultation meeting.
- Agreements are in place about the administration of intra-operative radiotherapy upon indication; the indication having been established in a multi-disciplinary context prior to surgery.
- Locally extensive or recurrent rectal cancers are treated in centres with proven expertise in the treatment thereof (i.e., experience with exenterations, multi-modal treatments, reconstructive surgery and – if applicable – intra-operative radiotherapy).
- The institution takes part in the Dutch Surgical Colorectal Audit (DSCA).
- At least 50 colorectal resections (for benign and malignant conditions) are performed per location, per year.
- If a healthcare institution performs rectal resections (for benign and malignant conditions), then they must perform at least 20 per year. Rectal resections include the following procedures: TME, PME, APR, proctocolectomy.
- Operations are performed by a certified surgical-oncologist or a certified gastrointestinal surgeon.



## Peritoneal metastases

In order to perform Hyperthermic IntraPERitoneal Chemotherapy (HIPEC) treatments, a healthcare institution must comply with all the conditions set for the treatment of colorectal cancers and must also have access to/comply with the following conditions:

- A weekly or fortnightly multi-disciplinary consultation prior to the treatment or surgery.
- HIPEC treatments are performed by a surgical team that has expertise in performing these complex, high-risk procedures: this applies to the surgeons and all other involved specialisations, such as anaesthesiologists, intensive care specialists and perfusionists. An interventional radiologist skilled in performing interventions on patients with complications following major gastro-intestinal and oncological procedures is available 24 hours per day, 7 days per week.
- Operations are performed by a certified surgical-oncologist or a certified gastrointestinal surgeon.
- The institution has an intensive care unit with staff who are skilled in caring for patients following HIPEC and other major gastro-intestinal and oncological procedures, with a physician available for the intensive care 24 hours per day.
- The institution must be represented in the national HIPEC working group.
- At least 20 HIPEC treatments are performed per location, per year.
- A quality registration is maintained.
- The start of HIPEC treatments in a new centre takes place under the supervision of an existing centre with proven expertise in HIPEC treatments, as described in this document. The new centre must satisfy the requirements specified previously in this document for the start of new treatments.

Different standards apply for the use of HIPEC treatments for ovarian cancer. These are listed under “ovarian cancer”.

## GYNAECOLOGICAL TUMOURS

The field of gynaecological oncology has so-called gynaecological oncology centres, for which the following description applies, as described in the memorandum “Stijgbeugel”, version 1.0, 2012, including:

- There are at least 2.4 FTE gynaecological oncologists per centre.
- At least 200 new patients with gynaecological oncological malignancy in a centre (testing number of cases per gynaecological oncology centre). The term “case” here is specifically defined as the occurrence of disease and not the individual patient. It is therefore possible – for example – that one patient should be counted twice due to two separate oncological events, such as a primary tumour with treatment and a subsequent relapse.
- If an oncology centre consists of two or more institutes, then they will be evaluated as separate healthcare institutions in terms of the number of surgical procedures. If a centre consists of two or more healthcare institutions, then the radical surgery should be concentrated in one location per tumour type if this is the only way of meeting the volume criteria.
- The gynaecological oncology centre fulfils a consulting role in the region in question. This is evidenced by the permanent option for consultation and structural oncology discussions.
- The institution takes part in the quality registration for gynaecological oncology, the Dutch Gynaecological Oncology Audit (DGOA).

## Cervical cancer

The diagnosis, treatment and follow-up of cervical cancer should preferably be performed in only one of the recognised gynaecological oncology centres (with the exception of stage IA1 cervical cancer (in accordance with FIGO staging 2019), following consultation with a centre). These centres must have access to/comply with the following conditions:

- Regional care pathways should preferably be developed.
- At least the following specialists should be present during the weekly multi-disciplinary consultation: gynaecologist-oncologist, medical-oncologist, radiologist, radiation-oncologist, pathologist, case manager and/or oncology nurse and/or oncology nurse practitioner and any other relevant nurses.
- A healthcare institution other than the gynaecological oncology centre employs at least two gynaecologists with gynaecological oncology as a focus area (GOA) (or gynaecologist-oncologists) who can ensure continuity of care.
- All surgical treatments of Stages IA-2 and higher (in accordance with the FIGO staging 2019) take place in the gynaecological oncology centre.



- All treatments of recurrent cervical cancer are coordinated by the gynaecological oncology centre.
- The standard for brachytherapy is at least 10 patients and 20 procedures per year, as an average over a period of 3 years. Also refer to the standard as described in the note by the NVRO.
- Each healthcare institution must perform at least 20 (radical) surgical procedures for cervical cancer per year, calculated over a period of 3 years.
- The institution takes part in the quality registration for gynaecological oncology, the Dutch Gynaecological Oncology Audit (DGOA).

### Endometrial cancer

For the treatment of endometrial cancer, a healthcare institution must have access to/comply with the following conditions:

- There are at least two gynaecologists with gynaecological oncology as a focus area (GOA) (or gynaecologist-oncologists), who coordinate or perform the care of patients with endometrial cancer within the healthcare institution.
- At least the following specialists should be present during the preferably weekly and at least fortnightly multi-disciplinary consultation for prospective discussion of the high-risk patients: gynaecologist with gynaecological oncology as a focus area, medical-oncologist, radiologist, radiation-oncologist, pathologist, case manager. An option must be available to include a weekly consultation with a gynaecologist-oncologist from the gynaecological oncology centre in this consultation meeting.
- The healthcare institution forms an integral part of the regional partnership in which the care for patients with (suspected) endometrial cancer is organised regionally and a gynaecological oncology centre is present in each region, with smaller and larger healthcare institutions referring to this centre.
- Stage I and the non-clinically manifest stage II: diagnosis, treatment and follow-up take place in centre and non-centre healthcare institutions. Diagnosis of any recurrence, and chemotherapeutic and hormonal treatment of the recurrence take place in consultation with the gynaecological oncology centre.
- Treatment with a curative intent of clinically manifest stage II, stage III and stage IV and surgical treatment of a recurrence take place in the gynaecological oncology centre.
- Non-curative treatment of stage III and stage IV and radiotherapeutic treatment of a recurrence take place in consultation with the gynaecological oncology centre.
- Surgical staging of the clear cell or serous papillary endometrial cancer takes place in a healthcare institution that also performs staging for ovarian cancer. Surgical staging of a grade 3 endometrial cancer should be performed in a healthcare institution that also performs staging for ovarian cancer.
- The healthcare institution where patients with endometrial cancer are treated has access to radiotherapy.
- There are agreements in place about the discussion or referral of patients for genetic counselling, for patients for whom this is indicated.
- The institution takes part in the quality registration for gynaecological oncology, the Dutch Gynaecological Oncology Audit (DGOA).

### Ovarian cancer (including tubal and peritoneal cancer)

For the treatment of ovarian cancer, a healthcare institution must have access to/comply with the following conditions:

- The healthcare institution forms an integral part of the regional partnership.
- At least the following specialists should be present during the weekly multi-disciplinary consultation for prospective discussion of patients: gynaecologist-oncologist, (if applicable) a gynaecologist with gynaecological oncology as a focus area, medical-oncologist, radiologist, radiation-oncologist, pathologist, case manager.
- A healthcare institution other than the gynaecological oncology centre employs at least two gynaecologists with gynaecological oncology as a focus area (GOA) (or gynaecologist-oncologists), who can ensure continuity of care.
- The gynaecologist-oncologist participates in each staging or debulking operation.
- A gastrointestinal surgeon is present/on-call.
- A healthcare institution where patients with ovarian cancer undergo surgery, performs at least 20 debulking operations per year, on average over a period of 3 years.
- Patients with a strong suspicion of ovarian cancer and patients with ovarian cancer who require a staging operation must have surgery in those healthcare institutions that also perform at least 20 debulking operations per year, on

average over a period of 3 years. No additional volume standards apply for these two groups of patients.

- Surgical treatment of a recurrent ovarian cancer takes place in the gynaecological oncology centre.
- Each patient with a recurrent ovarian cancer must be discussed with an internist-oncologist in a gynaecological oncology centre recognised in the Netherlands.
- Frozen sections can be produced on location.
- There are agreements in place about the discussion or referral of patients for genetic counselling, for patients for whom this is indicated.
- The institution has an intensive care unit with staff who are skilled in caring for patients following major gynaecological oncology procedures.
- The institution takes part in the quality registration for gynaecological oncology, the Dutch Gynaecological Oncology Audit (DGOA).

In order to achieve a safe, controlled and cost-effective introduction of Cytoreductive Surgery (CRS) and Hyperthermic IntraPeritoneal Chemotherapy (HIPEC) for ovarian cancer in the Netherlands, these treatments will not be performed in every hospital. In order to perform these treatments, a healthcare institution must have access to/comply with the following conditions:

- HIPEC for ovarian cancer can be performed in one of the recognised gynaecological oncology centres. These centres have at least 2.4 FTE gynaecological oncologists present to guarantee the pre-operative and post-operative care surrounding this procedure.
- The healthcare institutions that are not a gynaecological oncology centre, but that do perform HIPEC for colon cancer can also start performing HIPEC for ovarian cancer.
- Centres other than the recognised gynaecological oncology centres that want to set up HIPEC treatment can only do so following consultation within the regional context and in agreement with the relevant gynaecological oncology centre.
- The start of HIPEC treatment for ovarian cancer in a new centre takes place under the supervision of an existing centre with proven expertise in HIPEC treatment for ovarian or colon cancer.
- A gynaecological oncologist is present during each operation involving cytoreductive surgery and HIPEC for ovarian cancer and there is a close collaboration with the GE surgeon with experience in HIPEC treatment during colorectal surgery.
- Within the institution, the HIPEC treatment is performed by at least two gynaecologists who are trained in the HIPEC treatment. The other specialisations involved – such as anaesthesiology and perfusion – also have at least two specialists with proven specific expertise in HIPEC treatment.
- The institution has an intensive care unit with staff who are skilled in caring for patients following HIPEC and debulking operations for ovarian cancer. The institution has a nursing ward with nurses who are skilled in caring for patients following HIPEC and debulking operations for ovarian cancer.
- The institution that performs HIPEC for ovarian cancer must be represented in the Dutch Peritoneal Oncology Group in order to be up to date with all developments in this field.
- At least 10 HIPEC treatments are performed for the indication “ovarian cancer” per location, per year during the first year. Once the implementation of HIPEC during interval debulking has been completed, a decision will be made on whether to increase this standard to at least 20 treatments, as is the case for other highly complex surgery.
- A prospective quality registration will be maintained within the DGOA, so that the quality is monitored during the implementation phase of this new technique and an evaluation can be performed over time to determine whether performing a HIPEC remains indicated after both a complete and an optimal debulking.
- The new centre must satisfy the conditions specified previously in the SONCOS standardisation report for the start of new treatments.

## Vulva cancer

The primary treatment of squamous cell carcinoma of the vulva (except for vulva cancer stage IA) will only be performed in one of the recognised gynaecological oncology centres. These centres must have access to/comply with the following conditions:

- At least the following specialists should be present during the weekly multi-disciplinary consultation: gynaecologist-oncologist, medical-oncologist, radiologist, radiation-oncologist, pathologist, case manager and/or oncology nurse

and/or oncology nurse practitioner and any other relevant nurses. For the healthcare institutions that are not such a centre, an option must be available to include a weekly consultation with a gynaecologist-oncologist from the gynaecological oncology centre in this consultation meeting.

- A healthcare institution other than the gynaecological oncology centre employs at least two gynaecologists with gynaecological oncology as a focus area (GOA) (or gynaecologist-oncologists) who can ensure continuity of care. The following can take place here: diagnosis of primary tumour and recurrence, follow-up after primary treatment, surgical treatment of vulva cancer stage IA.
- Surgical and non-surgical treatment of macro-invasive vulva cancer and recurrent vulva cancer takes place in a gynaecological oncology centre.
- Sentinel node procedure and follow-up in the first two years after a sentinel node procedure take place in a gynaecological oncology centre.
- Each healthcare institution must perform at least 20 (radical) surgical procedures for vulva cancer per year, calculated over a period of 3 years.
- The institution takes part in the quality registration for gynaecological oncology, the Dutch Gynaecological Oncology Audit (DGOA).

## BRAIN TUMOURS

### Gliomas

A healthcare institution that treats patients with gliomas must comply with the quality criteria established in the document "Quality Criteria for Neuro-Oncology" (LWNO, 2014, available via [www.lwno.nl/richtlijnen](http://www.lwno.nl/richtlijnen)). The healthcare institution must also have access to/comply with the following conditions:

- Diagnostics using MRI (according to criteria section neuroradiology NVvR) is expedited in the case of a suspected brain tumour, reported by a radiologist with proven expertise in neuro-oncology and preferably discussed with the patient within 5 working days.
- A nurse with neuro-oncology expertise is available and with their own consultation hours.
- At least the following specialists with a focus area in neuro-oncology should be present during the weekly (regional) multi-disciplinary consultation: neurosurgeon, neurologist, radiation-oncologist, medical-oncologist, radiologist, pathologist, neuro-oncology nurse.
- The institution has access to radiology and pathology departments, where additional diagnostics (including molecular genetic diagnostics) can be performed, evaluated and reported on by specialists with proven expertise in neuro-oncology.
- In the case of progression/recurrence, the patient will once again be discussed in the multi-disciplinary consultation.
- The institution actively participates in (pre-)clinical studies, or patients are referred to other centres for these studies.
- Structural screening of physical, cognitive and behavioural impairments take place during the treatment and follow-up. Screening is also performed to determine the need for psychosocial care for patients and their loved ones.
- At least 50 new patients with a glioma are discussed in the (regional) multi-disciplinary consultation per year.
- The participating neurosurgical centre performs at least 50 brain tumour-related surgeries per year.
- The institution participates in the national patient registration (Dutch Brain Tumour Registry (DBTR)).

## HEAD & NECK TUMOURS

Malignant tumours originating from the following localisations fall under the definition "head & neck oncology", for which the treatment should take place in the healthcare institutions defined below and listed in Table 2:

- Lip and Oral Cavity (ICD-10 code: C00, C02-C06).
- Oropharynx (ICD-10 code: C01, C05.1,2, C09, C10 and C14.2).
- Nasopharynx (ICD-10 code: C11).
- Hypopharynx (ICD-10 code: C12-C13).
- Larynx (ICD-10 code: C10.1, C32).
- Nasal cavity and nasal sinuses (ICD-10 code: C30 and C31), including olfactory neuroblastoma.

- Salivary glands (ICD-10 code: C06.9, C07 and C08).
- Lymph node metastases of squamous cell carcinoma of unknown origin (ICD-10 code: C80.9).
- Auditory canal/middle ear cancers (lateral base of skull) (ICD-10 code: C44.2).
- Lymph node metastases of stage III and IV skin (adnexa) cancers.
- Skin (adnexa) cancers, melanomas and sarcomas for which complex surgery in the head & neck region is indicated, i.e., non-organ sparing surgery (such as a nose amputation, orbital exenteration, total auricle amputation)

In addition to the aforementioned tumours, the following tumours can also be presented to a HNOC, considering the available, required expertise and these will then fall within the definitions and framework regarding the organisation and SONCOS standardisation:

- Thyroid cancers with involvement of the larynx (ICD-10 code: C73), and/or lymph node metastases in the neck beyond level VI.
- Tumours of the cervical oesophagus and trachea, with/without involvement of the larynx (ICD-10 code: C15.0, C34.0).
- Malignant orbital, non-ocular tumours, such as eye adnexa tumours, including lacrimal glands (ICD-10 code: C69.5-9).
- Tumours of the head & neck region in children (with the treatment plan to be discussed in an MDC in the Princess Máxima Centre for Paediatric Oncology).

### Definitions

Head & neck oncology centre (HNOC): Healthcare institution in the Netherlands offering head & neck oncology care, which satisfies the criteria listed in tables 1 and 2, is recognised – after visitation – by the NWHHT and participates in the Dutch Head and Neck Audit (DHNA).

Preferred Partner HNO (PP-HNO): Healthcare institution in the Netherlands offering head & neck oncology care, which satisfies the criteria listed in tables 1 and 2, is recognised – after visitation – by the NWHHT, participates in a collaboration (ratified by the Boards of Directors) with a HNOC and participates in the DHNA.

Preferred Partner Radiotherapy (PPR): A radiotherapy department that has a covenant with a HNOC. A PPR can have a covenant with one HNOC, satisfies the criteria listed in tables 1 and 2, is recognised – after visitation – by the NWHHT and participates in the DHNA.

Multi-disciplinary consultation (MDC): A consultation to be held at least 1x per week with all healthcare providers involved in the diagnosis and treatment of patients, which results in an examination and treatment recommendation for the primary treating physician.

### Frameworks

1. All patients with previously mentioned index ICD-10 codes should be evaluated for treatment by all disciplines that will be involved in the treatment – preferably jointly – and should be discussed in the MDC of a HNOC. The prescribed treatment should be recorded in writing in a treatment plan, which should be added to the medical file.
2. The treatment, or a part of the treatment can only take place in an institution outside the HNOC if the MDC agrees to this and the specialisations involved in the treatment from the institution in question have participated in the MDC, or after the proposed treating physicians have consulted each other. A concomitant combination treatment of radiotherapy and systemic therapy is viewed as a single treatment and should therefore be performed in one centre. A HNOC can collaborate with one PP-HNO and one PPR. In rare cases (for example, palliative care), a motivated deviation is permitted.
3. All recommendations from the multi-disciplinary team of the HNOC should be implemented as stipulated in the treatment plan. A motivated deviation from this recommendation by the principal treating physician is permitted and should then be discussed in the MDC of the HNOC and should be documented in the treatment plan.
4. The processing times and specified intervals (e.g., between surgery and post-operative radiotherapy) should be observed (processing times indicator) when referring to an institution outside the HNOC for (further) treatment. If a part of a treatment is set to take place at a different location, then the day of arrival at the first location applies for the “processing time”.

**Minimum conditions:**

Tables 1 and 2 list the minimum standards for the HNOC, PP-HNO or PPR, with regard to the aforementioned head & neck tumours, which fall under the definition of "head & neck oncology". Only patients who are eligible to receive a part of their treatment (surgery, radiotherapy and/or systemic therapy) in the relevant institution may be included in the patient numbers.

If these numbers are not achieved, then the patients must be referred to a different centre. In the case of a PP-HNO, the patient must be referred to the HNOC. In the case of a HNOC, the patients must be referred to another HNOC (Table 2). In the case of insufficient expertise in rare treatments or tumour surgery – for example, involvement of the base of the skull – the patient should be referred to a HNOC with sufficient experience. In the case of orbital and eyelid tumours for which orbital exenteration is being considered, it is advisable to consider involving a surgeon with specific expertise in this pathology (within or outside the HNOC) when considering the option of eye(lid)-sparing surgery.

A PPR must satisfy the following conditions:

- At least 2 radiation-oncologists with head & neck oncology as their focus area and with proven expertise in this field, for at least 4 years, for one of the radiation-oncologists.
- Option to perform diagnostic examinations in accordance with the guidelines.
- Infrastructure/equipment: IMRT, 3D-volumetric on-board imaging. Diagnostic imaging should preferably be performed in the radiation mask.
- Daily availability of an oral hygienist, dietician, case manager head & neck oncology and point of contact for psychosocial support (social worker).
- Volume criteria for new radiotherapy patients (excluding palliative radiotherapy): 50 new patients per year per institute, on average over the past three years, at least 20 per radiation-oncologist.
- A PPR limits itself to the radiotherapy with intent to cure for the following patient categories: oral cavity, oropharynx, larynx, hypopharynx, salivary glands. A PPR does not perform treatments with radiotherapy in combination with systemic therapy.
- A PPR follows the same guidelines as the HNOC.

**Table 1:** Minimum staffing levels

	HNOc	Preferred Partner HNO	Preferred Partner radiotherapy
Full-time staffing			
Minimum number of head & neck surgeons** (minimum 1.0 FTE per specialisation ENT and Oral & Maxillofacial Surgery), with 1 present on working days	3	2	
Radiation-oncologist with head & neck oncology as a focus area	2	2	2
Internist-oncologist with head & neck oncology as a focus area	2	2	
Dermatologist, preferably certified in Mohs micrographic surgery	1	1	
Head & neck radiologist	1	1	
Plastic surgeon*	2	2	
Pathologist	1	1	
Nuclear medicine specialist	1	1	
Oncology nurse / Case manager	1	1	1
Dietician	1	1	1
Physiotherapist	1	1	
Oral hygienist	1	1	1
Dentist maxillofacial prosthetist**	1	1	
Speech therapist	1	1	1
Psychosocial care	1	1	1

\*this part to be performed by the head & neck surgeons, if trained in microsurgery

\*\*registered in the (oncology) register of the Dutch professional association.

**Table 2:** Number of patients and treatments per year of head & neck tumours that fall under the definition “head & neck oncology” (as defined above) that need to be performed in a single centre in order to be allowed to perform this treatment.

	HNOc*	Preferred Partner HNO*	Preferred Partner Radiotherapy
Number of newly treated patients/year	200	80	50
Chemoradiotherapy (CRT) / targeted therapy-RT	20	20	Nvt
Extensive ablative resections + (microsurgical) reconstructions	20	20	Nvt
Percentage processing time arrival in centre – start treatment <30 days	80%	80%	Nvt

\* The centre can opt to concentrate specific care in one location.

### Processing times indicator

- Relation to quality: Tumours in the head & neck region are characterised by relatively rapid growth. This means that a(n) (excessively) long interval between date of referral to a HNOC and the start of the primary treatment (surgery, radiotherapy alone or in combination with systemic therapy) can result in significant tumour growth and escalation to a higher tumour stage with reduced chance of a cure, alteration/intensification of therapeutic options or even a shift from curative to palliative treatment.
- Definition: Processing time = number of calendar days from first consultation to start date of primary treatment (surgery, radiotherapy alone or in combination with systemic therapy).
- Standard: 80% of the patients start the primary treatment within 30 calendar days after the first consultation in a HNOC. Waiting time = processing time – 30 calendar days.
- Concerns: All patients with a primary malignancy in the head & neck region of the index locations, who were seen for the first time.

## LUNG TUMOURS

For the treatment of lung cancer, a healthcare institution must have access to/comply with the following conditions:

- There are at least two pulmonologists, two surgeons, one radiation-oncologist, two radiologists/nuclear medicine specialists, one pathologist, all with proven specific expertise in lung cancer.
- At least the following specialists should be present during the weekly multi-disciplinary consultation: a pulmonologist, (lung and/or thoracic) surgeon, radiation-oncologist, radiologist/nuclear medicine specialist, pathologist, case manager and/or oncology nurse and/or oncology nurse practitioner and any other relevant nurses. An option must be available to include a weekly consultation with a representative from the reference centre in this consultation meeting.
- The institution has access to an adequately equipped endoscopy department, where bronchoscopy and endobronchial ultrasound can be performed. The institution performs at least 100 endoscopies per year, averaged over 3 years.
- There is access to endo-oesophageal ultrasound.
- There is access to urgent radiodiagnostic services with ultrasound, CT scan and angiography.
- There is access to a Nuclear Medicine department with SPECT-CT, ventilation/perfusion scintigraphy and PET/CT.
- There is access to (minimally invasive) diagnostics of the mediastinum.
- The processing time for diagnostics in case of mediastinal involvement is no more than five weeks.
- The processing time for the diagnostic process if NGS is indicated is no more than 5 weeks.
- The option to perform peri-operative analysis of frozen sections is available.
- There is access to standardised molecular diagnostics via the pathology department, with at least the mutations and translocations relevant to therapy being identified.
- Neo-adjuvant chemotherapy, chemoradiotherapy and stereotactic radiotherapy are available, with an established "service level".
- The institution treats at least 50 new patients with lung cancer per hospital per year.
- If a healthcare institution performs lung resections, then they must perform at least 20 lung resections per year, defined as segment resection, lobectomy and pneumonectomy. The resections are performed by a certified lung surgeon or thoracic surgeon.
- A healthcare institution where lung resections are performed has the facilities to perform an emergency thoracotomy at all times.
- The healthcare institution where lung resections are performed has an intensive care unit with staff who are skilled in caring for patients following lung surgery.
- Healthcare institutions that treat lung cancer, perform lung resections and/or offer radiotherapy as treatment take part in the national registrations thereof, the Dutch Lung Cancer Audit (DLCA-L), the Dutch Lung Surgery Audit (DLCA-S) and the Dutch Lung Radiotherapy Audit (DLCA-R).
- A healthcare institution that offers immunotherapy must satisfy the NVALT quality requirements (appendix M). A healthcare institution that offers combination immunotherapy must satisfy the NVALT quality requirements (appendix M).
- A healthcare institution that offers "targeted" therapy for patients with a rare driver mutation (prevalence <5% of adenocarcinomas or squamous cell carcinomas) must have proven expertise and must satisfy the criteria for lung cancer patients with rare DNA abnormalities (appendix N).

## MESOTHELIOMA

For the care, diagnosis and treatment of mesothelioma, a healthcare institution must have access to/comply with the following conditions:

- Access to pathology diagnostic tools such as BAP1 immunohistochemistry and MTAP immunohistochemistry and/or p16 FISH.
- Access to a clinical geneticist for referral of patients with suspected BAP 1 tumour predisposition syndrome.
- A healthcare institution that offers chemotherapy to patients with mesothelioma must have at least two pulmonologists who satisfy the criteria for treatment of patients with lung cancer. The institution treats at least 50 new patients with lung cancer per healthcare institution per year.
- Healthcare institutions that treat mesothelioma take part in the national registration thereof, the Dutch Lung Cancer Audit (DLCA-L).
- A healthcare institution that offers immunotherapy must satisfy the NVALT quality requirements for immunotherapy (appendix M). A healthcare institution that offers combination immunotherapy must satisfy the NVALT quality requirements for combination immunotherapy (appendix M, criteria IO-IO).

## BREAST CANCER

For the treatment of breast cancer, a healthcare institution must have access to/comply with the following conditions:

- There is a breast cancer team, consisting of at least one breast care nurse and/or oncology nurse practitioner, two surgical-oncologists, one plastic surgeon, two radiologists, one pathologist, one radiation-oncologist, one medical-oncologist and one nuclear medicine specialist, all with proven specific expertise in breast pathology (in accordance with the NABON memorandum, April 2008, available via [www.oncoline.nl](http://www.oncoline.nl)).
- There is a recognisable breast cancer outpatients' clinic.
- Breast MRI is available, with defined periods within which the MRI can be performed, evaluated and reported on by a radiologist / nuclear medicine specialist with the required focus area.
- Stereotactic biopsies are available, with defined periods within which the biopsy can be performed, evaluated and reported on by a pathologist.
- There is access to a Nuclear Medicine department that can perform the sentinel node procedure, has access to PET/CT and can administer therapy with bone-seeking radiopharmaceuticals, for which the "service level" has been established.
- There is an option available for pre-operative consultation with a plastic surgeon and radiation-oncologist.
- At least the following specialists should be present during the weekly multi-disciplinary consultation: surgical oncologist, medical-oncologist, radiologist, radiation-oncologist, pathologist, case manager, breast care nurse and/or oncology nurse and/or oncology nurse practitioner. An option must be available to include a weekly consultation with a representative from the reference centre and the plastic surgeon in this consultation meeting.
- The institution has an operating room with adequate facilities, including a gamma probe.
- There is an operating room suitable for prosthetic surgery.
- There is a care pathway for neo-adjuvant chemotherapy.
- Written agreements are in place about genetic counselling and testing, including fast-track diagnostics, in which at least the processing times are recorded.
- In the case of (neo-)adjuvant treatments, there are agreements in place regarding the timely referral for fertility preservation.
- Oncoplastic surgery is performed, i.e., skin-sparing ablations with immediate reconstruction or oncoplastic sparing surgeries.
- The institution takes part in the Dutch Breast Cancer Audit/NABON Breast Cancer Audit.
- At least 50 breast cancer surgeries are performed per location, per year.
- Operations are performed by a certified surgical oncologist.



## EYE TUMOURS

### Retinoblastoma

- Considering the rare nature of retinoblastoma (cancer of the retina in children) and the official existence of a national expertise centre for rare conditions / reference centre in the Netherlands, these patients should be referred to this centre. The treatment or recommendations are given by this centre.

### Uveal melanomas

- A care pathway has been formulated for the care of patients with melanoma of the eye.
- All patients with uveal melanoma will be discussed in a multi-disciplinary consultation prior to the treatment. This multi-disciplinary consultation takes place at least every two weeks and at least two ophthalmologists and a radiation-oncologist with proven experience in oncology of the eye are present during this consultation.
- The centres must have written information material that describes all the treatment options.
- Dedicated nursing care is available.
- Treatment results are registered and evaluated.
- The institution has a pathology department with proven expertise in the field of pathology of uveal melanomas.
- Patients who are advised by the MDC to undergo enucleation can have this surgery performed elsewhere, but the tissue will be evaluated in an eye oncology centre.
- There is access to a weekly MDC with the internist-oncologist and surgeon for patients with metastasised disease.

## UROLOGICAL TUMOURS

### Bladder cancer

For the treatment of muscle-invasive bladder cancer, a healthcare institution must have access to/comply with the following conditions:

- Prior to the treatment, the patient is given extensive information – both verbally and in writing – about the treatment with the various forms of urine deviation.
- The institution is experienced in various techniques for urine deviation and lymph node dissection.
- With regard to the processing times, as an exception to the times specified in Chapter 2, the time between the first outpatients' clinic visit and cystectomy for muscle-invasive bladder cancer is a maximum of 12 weeks, unless neo-adjuvant chemotherapy is administered.
- The institution has an intensive care unit with staff who are skilled in caring for patients following major urological oncology procedures.
- The institution has a stoma outpatients' clinic with a stoma nurse.
- At least the following specialists should be present during the weekly multi-disciplinary consultation: urologist, medical-oncologist, radiologist / nuclear medicine specialist, radiation-oncologist, pathologist, case manager and/or oncology nurse and/or oncology nurse practitioner and any other relevant nurses. An option must be available to include a weekly consultation with a representative from the reference centre in this consultation meeting.
- As of 1 January 2019, institutions must perform a minimum of 20 cystectomies for bladder cancer per location per year, performed by qualified urologists.
- There is at least one internist-oncologist with proven specific expertise in bladder cancer and the systemic treatment thereof. A decision about the implementation of systemic therapy is made in consultation between the urologist and internist-oncologist.

### Kidney cell cancer

For the treatment of kidney cell cancer, a healthcare institution must have access to/comply with the following conditions:

- At least the following specialists should be present during the weekly multi-disciplinary consultation: urologist, medical-oncologist, radiologist, radiation-oncologist, pathologist, case manager and/or oncology nurse and/or oncology nurse practitioner and any other relevant nurses. An option must be available to include a weekly consultation with a representative from the reference centre in this consultation meeting.

- There are at least two internist-oncologists with proven specific expertise in kidney cell cancer and the systemic therapy for this, particularly immunotherapy and targeted therapy.
- An option to perform True-Cut® biopsies must be available.
- In the event of a (functional) mono-kidney with kidney cell cancer, a surgical procedure must be performed in a centre with experience in nephron-sparing surgery in a mono-kidney.
- Patients with a supra-diaphragmatic (tumour) thrombus must have their surgical procedure performed in a centre with expertise in the field of cardiothoracic surgery and intensive care after such a procedure.
- Healthcare institutions that perform surgical treatment for kidney cell cancer must perform at least 10 oncological procedures of the kidney per year and must diagnose/treat at least 20 new patients with kidney cancer per year.
- Systemic therapy is determined in the tumour network MDC and performed by an internist-oncologist.
- Systemic therapy of kidney cell cancer can only take place if the healthcare institution in question systemically treats at least 10 patients per year with this condition, unless an exception is made for a specific patient in consultation with the reference centre.
- If partial nephrectomies are performed, then: at least 10 partial nephrectomies must be performed per location per year, on average over 3 years.
- A structured MDC (of an expertise centre or a regional MDC) must have expertise covering the whole range of treatment options ((partial) nephrectomy, ablative treatments and medicinal treatments) and must discuss at least 50 patients with kidney tumours per year.

For the systemic treatment of metastasised kidney cell cancer, a healthcare institution must have access to/comply with the following conditions, in addition to meeting the aforementioned requirements for surgical treatment:

- The infrastructure of the hospital must be suitable for administration of (combination) immunotherapy +/- TKI (among others and other potential new combinations) including the treatment of complications.
- Each affiliated hospital has 2 dedicated medical-oncologists and at least 1 nurse practitioner or an oncology nurse specialised in kidney cell cancer.
- The hospital participates in the network tumour working group on kidney cell cancer and is affiliated with the national tumour working group on kidney cell cancer.
- All patients with a metastasised kidney cell cancer must be discussed in the network MDC, both prior to the start of first-line treatment and also for any subsequent treatment following progression and/or toxicity.
- Patients will receive information leaflets in their own hospital, created by the national tumour working group on kidney cell cancer, in which the options are discussed, including trial options and where these can take place.
- The hospitals that offer combination immunotherapy must ensure 24/7 availability of an internist-oncologist for consultation.
- For the standards for the national tumour working group and the network tumour working group, please refer to the quality standardisation document on metastasised kidney cell cancer. (Visit [www.nvmo.org](http://www.nvmo.org))

## Penis cancer

For the treatment of penis cancer >T1aG1, a healthcare institution must have access to/comply with the following conditions:

- A structured multi-disciplinary consultation takes place prior to the treatment of penis cancer with possible lymph node or distant metastases.
- At least the following specialists should be present during the weekly multi-disciplinary consultation: urologist, medical-oncologist, radiologist / nuclear medicine specialist, radiation-oncologist, pathologist, case manager and/or oncology nurse and/or oncology nurse practitioner and any other relevant nurses. An option must be available to include a weekly consultation with a representative from the reference centre in this consultation meeting.
- In order to promote the process of care concentration for low-volume surgery, the minimum number of treatments of patients with penis cancer involving a high-stage tumour (>T1aG1) has been set at 10 new patients per hospital location per year.
- In the case of suspected or diagnosed penis cancer involving a high-stage tumour (>T1aG1), the patient should be referred to a centre with the following experience in the field of diagnosis and treatment of penis cancer:
  - o making a diagnosis and staging of penis cancer (using – among others – Dynamic Sentinel node Biopsy (DSNB) and SPECT-CT).

- o performing ultrasound-guided cytological biopsies from the groin (radiologist/urologist) and expertise in the evaluation thereof (pathologist).
- o presence of a structured indication setting for referral to a medical-oncologist or radiation-oncologist, or consultation with an external consulting party (nationally or internationally).
- o the treatment of penis cancer in various stages, including chemotherapy, radiotherapy, deep and superficial inguinal node dissection and pelvic node dissection.
- The urologist is the care coordinator during the diagnostic phase and contacts the departments of radiology and nuclear medicine and the laboratories for pathology and clinical chemistry for assistance.
- The time that expires between setting the indication for treatment and performing a treatment should not exceed six weeks.

### Prostate cancer

For the treatment of prostate cancer, a healthcare institution must have access to/comply with the following conditions:

- A structured multi-disciplinary consultation takes place prior to the treatment to discuss the proposed treatment. At least the following specialists should be present during the weekly multi-disciplinary consultation: urologist, medical-oncologist, radiologist/nuclear medicine specialist, radiation-oncologist, pathologist, case manager and/or oncology nurse and/or oncology nurse practitioner and any other relevant nurses. An option must be available to include a weekly consultation with a representative from the reference centre in this consultation meeting.
- As soon as it becomes evident that the patient has castration-resistant metastasised prostate cancer (i.e., tumour progression despite testosterone at castration level), the further course of action is discussed in a multi-disciplinary context.
- In the case of combined hormonal and radiotherapy, agreements must be made about which specialist is responsible for the hormonal therapy.
- There is access to a Nuclear Medicine department that has access to PET/CT and can administer therapy with bone-seeking radiopharmaceuticals, for which the "service level" has been established.
- There is at least one radiologist with proven specific expertise in prostate cancer.
- There is at least one internist-oncologist with proven specific expertise in the systemic treatment of patients with prostate cancer.
- As of 1 January 2019, institutions must perform a minimum of 100 radical prostatectomies for prostate cancer per location per year.

### Testicular cancer

For the treatment of testicular cancer, a healthcare institution must have access to/comply with the following conditions:

- At least the following specialists should be present during the weekly multi-disciplinary consultation: urologist, medical-oncologist, radiologist / nuclear medicine specialist, radiation-oncologist, pathologist, representative from the reference centre, case manager and/or oncology nurse and/or oncology nurse practitioner and any other relevant nurses.
- There is at least one pathologist with proven specific expertise in testicular cancer.
- There is at least one medical-oncologist with proven specific expertise in testicular cancer and the systemic treatment thereof.
- Inguinal orchidectomy must be performed as soon as possible (preferably within 72 hours) after initial presentation of a patient with testicular cancer, unless an indication exists for starting chemotherapy immediately.
- A structured multi-disciplinary consultation in which all testicular cancer patients are discussed must take place to determine the further course of action following orchidectomy, with results of pathology and imaging studies. An option must be available to include a consultation with an expert from the reference centre in this consultation meeting.
- In the case of a patient with a poor prognosis (poor risk), the reference centre should be consulted as soon as the "poor prognosis" status becomes known.
- Semen preservation should be discussed prior to a radical orchidectomy. If a patient is found to have azoospermia, then the patient will be offered a radical orchidectomy and simultaneous oncoTESE for fertility preservation in a centre that performs TESE.
- A healthcare institution that treats patients with stage I testicular cancer must see at least 5 new patients with this stage in follow-up per year.

- If a healthcare institution treats patients with a stage higher than stage I (primary or recurrent), but with a “good risk”, then they must treat at least 10 patients per year.
- All patients with metastasised disease with an intermediate or poor prognosis will be referred to and treated in a reference centre.
- A clinic that treats retroperitoneal residual lesions must perform at least 10 treatments per year.

# APPENDICES

## APPENDIX A) CRITERIA FOR ONCOLOGY NURSES

An oncology nurse is a person who meets any of the following conditions:

- In possession of a certificate approved by the Supervision Board Healthcare Training (CZO).
- If certified between 2002 and 2006: a certificate approved under the National Regulation Nursing Training (LRVV).

If certified prior to 2002: a certificate obtained from a healthcare institution that received accreditation for this training programme in the LRVV between 2002 and 2008.

The practising oncology nurse who does not satisfy the aforementioned criteria but has completed adequate training and has a proven career in the field of oncology will be designated as an oncology nurse.

As healthcare institutions have been able to apply for CZO accreditation since 2008 and this is their own responsibility, the fourth group is aimed at nurses who completed training prior to 2002 that is not recognised by CZO and who are currently qualified and skilled in the specific oncology field. Only an oncology nurse with a CZO-accredited training is allowed to register under the Individual Healthcare Professionals Act (BIG act) for the module “authorised to prescribe”.

The area of expertise of the oncology nurse can be consulted via the link: <https://www.venvn.nl/media/kimhqlw5/v-vn-expertise-oncologieverpleegkundige-1.pdf>

## APPENDIX B) QUALITY STANDARDISATION IN MEDICAL-ONCOLOGY

### Introduction

The board of the Dutch Association for Medical Oncology (NVMO) has asked the Quality Committee to draft a document on Quality Standardisation in Medical Oncology. This document will establish standards for systemic anti-tumour treatments, which internist-oncologists and hospitals must satisfy.

The NVMO vision document (Vision Document NVMO 2018-2022 – Van Bochove Committee) about the regionalisation and centralisation of oncology care has previously defined conditions for a multi-disciplinary and integral treatment plan with diagnosis as the starting point. The document on Quality Standardisation in Medical Oncology dovetails with the NVMO vision document.

The document on Quality Standardisation in Medical Oncology is general in nature and shall serve as a guideline to describe tumour-specific standards in relation to systemic treatments in the SONCOS standardisation report. When setting indications and performing systemic treatments, the starting point is that the systemic treatment should be given in the most suitable location whilst providing optimum assurance of quality and safety: centrally where necessary, closer to home where possible.

### Quality of care

The treating medical-oncologist is responsible for providing qualitatively optimum systemic treatments for an individual cancer patient. This medical specialist is experienced in setting an indication for and administering a specific treatment, with this expertise being guaranteed by the process of registration and re-registration.

The number of potential treatments for a cancer patient has increased significantly in recent years, with the further classification of tumour types and distinctions between various patients increasingly resulting in personalised treatments. In the context of shared decision-making, the patient must be able to rely on the fact that the presented treatment options have been discussed in a team of experts with knowledge and expertise of the treatment options and the specific tumour type. The professional group is responsible for ensuring that personalised treatments are corrected indicated and prescribed and that side effects of these treatments are also adequately recognised and treated.

The Quality Committee has established a number of starting points, which optimum quality of care should satisfy:

1. The care given to the patient should be safe.
2. Network formation is a prerequisite of provided care, with associated evaluation of care.
3. The care given to the patient complies with the current state of scientific knowledge (agreements about registration and compensation play a role in this last point).
4. The care given to the patient should satisfy the conditions of socially responsible conduct.

#### **Starting point 1: Safe care**

Safe care means that there are sufficient knowledge and skills present at all times in order to offer the systemic treatment in a safe manner. The organisation structure in the hospital where the treatment is given plays a primary role in this. Treating physicians within a hospital continuously assess whether treatments can be administered in a skilled manner in their own hospital. Patients may expect an adequate supply of information (with description of advantages and disadvantages, treatment objective, success rates and possible alternatives) for the treatment. The systemic treatment is performed by skilled practitioners (a skilled medical specialist with a trained treatment team) and there is access to care 24/7. Please refer to the general conditions for oncology care in the SONCOS standardisation report.

#### **Starting point 2: Network formation**

Network formation with other hospitals is a prerequisite for an optimum assurance of quality and safety close to the patient's home. Network formation will result in less variation in practice, faster spread of knowledge, implementation of innovative treatments and fewer "second opinions". In addition, evaluations within the network will result in quality improvement<sup>9</sup>.

Within each network, further agreements will be made per tumour group about:

- The design of the MDCs, which patients should be discussed, in which part of the treatment process and in which MDC.
- Which hospitals can offer which systemic treatments.
- Which hospital performs which part of the treatment (chain care).
- How the handling of complications is organised.
- Implementation of innovative or new treatments and techniques; An evaluation should take place at least 6 months and no more than one year after implementation of a new treatment option for a certain patient group/indication within the hospital (and/or the network).
- Tumour network meetings take place on a regular basis (at least 2 times per year), in which the care pathways are evaluated based on the current state of scientific knowledge.

The number of networks is determined per tumour type, always ensuring national coverage. The various tumour networks are unified in a national tumour working group. The national tumour working groups have agreements in place about:

- Care evaluation:
  - o Evaluation by definition and measurement of a limited number of care indicators.
  - o Treatment outcomes are measured, with evaluation of the ultimate efficacy of (newly) registered treatment indications.
- Scientific research: the national network has a responsibility with regard to the availability of scientific research and facilitates the participation of all affiliated networks.
- Education/further training for all healthcare professionals involved.

<sup>9</sup> NVMO will remain vigilant to an increase in the registration burden. Where possible, the existing registrations will be used, with the aim of the items to be registered being to measure the quality, and the number of items is limited.

### Starting point 3: Current state of scientific knowledge

The current state of scientific knowledge forms the foundation for medical treatment. Developments are monitored continuously and implemented in practice where possible. The Quality Committee concluded that the current processing times for the amendment of guidelines are too long, which impedes timely amendments. As the multi-disciplinary platform for all healthcare professionals involved in cancer care, SONCOS is working on optimisation of the structure of these guidelines. In anticipation of a possible solution to achieving a more rapid implementation of new medical-oncology updates to guidelines, the NVMO recently established a procedure for the development of mono-disciplinary standpoints. The national tumour working group can submit a proposal to this effect to the NVMO. Whilst awaiting a more structural approach via SONCOS, the procedure for determining standpoints by the NVMO serves as the prelude to mono-disciplinary amendments within a guideline.

Members of the expert team of the network tumour working group participate actively in the meetings of national tumour working groups. This offers the patient a guarantee that his or her systemic treatment will be performed in accordance with the current state of scientific knowledge (evidence based as expert opinion). In addition, each patient will be assessed to determine whether they can take part in ongoing trials. Treatment in a trial setting is generally preferable.

The option to participate in a trial is always mentioned in the report of the MDC. If the patient's own hospital does not offer any options for trial participation, then the patient will be referred to another hospital. The national tumour working groups are tasked with attracting trials and making these available to all patients who are being treated within the tumour network.

### Starting point 4: Socially responsible conduct

Socially responsible conduct forms the basis of the medical treatment offered by every medical specialist. The BOM Committee and the Committee for Off-label Indication-setting of Oncology Drugs of the NVMO play a leading role in this regard. Transparent record-keeping is essential for peer review at all levels (institution and treatment team, network tumour working group and expert team, national tumour working group). This peer review is developed by the national tumour working group and implemented in consultation with the NVMO. The NVMO encourages regular communication with its members about treatment results and trial outcomes.

### Conditions for performing systemic treatments

In addition to the established starting points, the Quality Committee has formulated the following conditions for the multi-disciplinary team and the hospital.

#### Conditions for the multi-disciplinary treatment team within a hospital

A multi-disciplinary treatment team, in which the internist-oncologist offers systemic treatment, must satisfy the conditions for performing diagnosis and treatment with optimum assurance of quality and safety. These conditions are:

- Composition of the team (at least one pathologist, radiologist, organ specialist, surgeon, radiation-oncologist and internist-oncologist). This broad representation of healthcare professionals, involved in the diagnosis and treatment of the relevant tumour type, in the multi-disciplinary consultation contributes to a thorough process of establishing an indication whilst also weighing both tumour-specific and patient-specific factors.
- The treatment team forms part of the relevant tumour network.
- Members of the treatment team participate actively in the network tumour working group.
- The expert team of the network tumour working group is actively involved in the national tumour working group.
- The treatment team acts according to agreements made in the national and network tumour working groups.
- Clear and fast reporting (aim is within 2 working days), informing all treating practitioners involved.

#### Conditions for the hospital

The hospital in which the systemic treatment will take place complies with the SONCOS standards. Some conditions are so important that they are defined more clearly below. In addition, conditions have been formulated about working in networks and which agreements the hospital should make about this. In order to be able to perform systemic treatments, the hospital must comply with the following conditions:

- Treatment/care pathways, central point of contact and main treating physician and/or case manager are clearly defined.



- Once the indication has been established, the systemic treatment will start within the defined processing time for the tumour type (also refer to the SONCOS standardisation report).
- It is clear to the patient which healthcare professional they should call in an emergency, with 24/7 availability guaranteed. This healthcare professional acts as the central point of contact after hours. This will be determined by the capabilities within each hospital.
- Expertise in oncology care are available for all oncology patients and treatments for which the institution provides care, 24 hours per day and 7 days per week (SONCOS).
- During the on-call hours, there is a back-up system in place, allowing medical-oncologists to contact an expert colleague (of the same discipline) with expertise within the relevant tumour network in the event of complex or rare side effects. This will result in differentiated support being available for each on-call healthcare professional within the network. The network is responsible for developing and disseminating the on-call schedule to all members.

## Legend

### Treatment team

A multi-disciplinary team of medical specialists and other healthcare providers from their own hospital, directly involved in diagnosis and treatment. The team satisfies the standards for treatment of the relevant tumour type, as determined by SONCOS.

### Expert team

A multi-disciplinary team of medical specialists that supports the treatment team in the diagnosis and treatment according to the state of scientific knowledge. This team can consist of medical specialists from various hospitals, but in the case of disease presentations / tumour types with a high incidence and a relatively simple treatment, it can also consist of medical specialists solely from their own hospital. The team satisfies the standards for the relevant treatment as determined by SONCOS. The (additional) expertise results from: profound specialisation in diagnosis and treatment of the disease presentation in question, based on (inter)national collaboration and research in this field, active involvement in the establishment of guidelines and study proposals, proven scientific contribution to clinical trials if these are performed in the Netherlands.

### Tumour network

Includes all medical specialists from various disciplines involved in the care of a specific tumour type and working in all participating hospitals within the same network. In principle, this network determines how the expert team is composed from various participating hospitals; makes agreements about how often and at which moment patients will be discussed; makes agreements about topics for and frequency of networking meetings. Does not have to be the same as the organisational network in which the hospital participates.

### Tumour network MDC

A multi-disciplinary consultation between medical specialists and other involved healthcare professionals of the treatment team and the expert team within the same network in which the diagnosis, treatment indication, (potential) evaluation moments and side effects are discussed at the level of the patient.

### Network tumour working group

A multi-disciplinary consultation between medical specialists of the treatment team and the expert team within the same network in which the diagnosis, treatment indication, (potential) evaluation moments and side effects are discussed at the level of the organisation.

### National tumour working group

Sub-organisation (mono- as well as multi-disciplinary) within Dutch oncology care, recognised by the NVMO, usually established per tumour type (sometimes also per type of treatment) in order to promote treatment and care. The NVMO mandates the internist-oncologists for these sub-organisations. They contribute to the development and updating of guidelines or standpoints, quality requirements, the exchange of knowledge and the setting up/execution of clinical scientific research.

## APPENDIX C) STANDARDS DOCUMENT NVVR

The version as approved on 04-06-2015 and textually amended in 2018, available via: [www.radiologen.nl](http://www.radiologen.nl)

## APPENDIX D) QUALITY GUIDELINES OF THE NVNG

The version as approved during the General Meeting of Members on 03 June 2014, available via [www.nvng.nl](http://www.nvng.nl)

## APPENDIX E) FOCUS AREAS OF THE NVVP

Version of April 2016, approved by GMM on 17 November 2016

### Background:

In general, specialisation within pathology enhances quality and reduces variability, as expounded upon in the literature for various sub-domains. Further sub-specialisation is inevitable due to the increasing complexity of the diagnostics, with significant expansion of parameters to be defined in protocols, as well as the rapid development of these aspects in various sub-domains of pathology. In addition to the traditionally profoundly specialised pathologists in the academic departments, the peripheral centres are also already exhibiting a strong trend towards upscaling with sub-specialisation, which partly regulates itself through local circumstances and case mix.

This gives rise to a desire for quality requirements to be established by the professional group in the short term for defined focus areas / sub-specialisations, which can result in verifiable criteria for “proven expertise”. This will also provide the best foundation in the longer term for relevant, acceptable, workable and verifiable definitions. It also offers an opportunity to display the high quality, both within our departments and towards the partners of the pathology department in multi-disciplinary care.

Following development in an ad hoc working group and subsequent extensive consultation of the members of the NVVP, with incorporation of the comments submitted by the members, the “discussion paper focus areas NVVP” (March 2015) was incorporated into the current document, which defines the standards for focus area pathologists.

### Definition of terms

With regard to the terminology, the term “focus area” generally applies to latitudinal improvements, without ruling out any skills, and “sub-specialisation” refers to a pathologist who covers only one/several area(s) and casts off other areas. “Expert status” should be reserved for recognition by peers. The standards set out in this document are specifically applicable to focus areas.

### 1. Standards for the focus area pathologist

A pathologist who diagnoses diseases in a sub-specialisation of pathology should not only have proven qualifications in this specific sub-domain but should also maintain the level of knowledge and skills in this sub-domain through further training. In practical terms, this means that the pathologist in question must have obtained the required skills during his/her training and/or by completing a specific course of sufficient significance in this sub-domain. Further training can include active participation in clubs and (inter)national meetings about this sub-domain. The treatment centres are affiliated with a “pathologists’ group”, in which expertise as described above is present (either at the own location or elsewhere), so that continuity of care is also guaranteed, for example by easy access to consultations between a focus area pathologist and a generalist. This last point relates primarily to the fact that pathology is not a primary specialisation, and thus has only a limited influence on the case mix that is presented. This also means that it is hard to establish volume standards for individual pathologists or laboratories as a whole, without endangering the continuity of care. The following standards were drafted according to the OMS valuation system (in which basic standards (B) - good practice - and target standards (T) - best practice - are defined); these can be tested in the context of the LVC visitation.

The standards for the “focus area pathologist / pathologist with proven expertise” include:

1. Understanding of the focus area, including integration of molecular pathology (B)
2. Structural participation in diagnostics for the focus area (B)
3. Structural participation in the relevant multi-disciplinary consultation (MDC; if present) (T)
4. Providing and/or following specific further training (B)
5. Point of contact for the clinical departments for the focus area and recognisable and proven quality as a focus area pathologist for the relevant clinical departments (T)
6. Working in a “state of the art” pathology department (see below) (B)
7. Participation in (if available) panel / (guideline) working group (with the panel/working group meeting the requirements, namely agenda, attendance record, reporting incl. numbers and diagnoses) (T)

For the department in which the “focus area pathologist” is embedded, the following applies:

## 2. “State of the art” pathology department

1. CCKL or ISO15189 accreditation (B)
2. Participation in NVVP Professional visitation (a requirement for re-registration of medical specialists) (B)
3. Participation by one or more pathologists in an oncology committee, tumour working group, boards, care pathways, within the own hospital(s) (B)
4. Expertise in molecular pathology is available in the department and/or the department participates in a collaboration in which molecular diagnostics are performed that are of good quality and with adequate speed (B)
5. Continuity of staffing is guaranteed for the focus area. For example, by double staffing, collaboration in a network with easy consultation options, digital pathology, transfer, etc. (B)
6. The department provides structural (>80%) attendance of the MDCs by a focus area pathologist (T)

## APPENDIX F) QUALITY CRITERIA FOR CLINICAL PHARMACY

- In the healthcare institution, the pharmaceutical oncology care – both inpatient and outpatient – is arranged according to the quality frameworks described in the Professional Standard for Pharmacists in Hospitals (BAZ), 2016. The document drafted by the NVZA (“Specific Care Pathway Specialist Pharmaceutical Care Oncology” (version 2017)) serves as a guide in the organisation of care.
- The healthcare institution has a hospital pharmacist with oncology as a focus area. This specialised pharmacist has obtained this qualification through further training, is available for consultations and participates in relevant MDCs and discussions, where relevant. Treatment protocols involving chemotherapy are co-authorised by the pharmacy.
- The healthcare institution meets the practical field standard for “Prescription, preparation, delivery and administration of cytostatic agents”, drafted by the NVMO, NVZA, and V&VN, version 2015.
- The healthcare institution has (an agreement with) an accredited laboratory where clinical pharmaceutical determinations for therapeutic drug monitoring and pharmacogenetic determinations can be performed.
- The healthcare institution has (an agreement with) a compounding pharmacy, where parenteral cytostatic agents and – if applicable – radiopharmaceuticals can be prepared for administration in accordance with the applicable quality standards described in Good Manufacturing Practice Hospital Pharmacy (GMP-z), chapters Z3 and Z4.

## APPENDIX G) PRACTICAL FIELD STANDARD FOR PRESCRIPTION, PREPARATION, DELIVERY AND ADMINISTRATION OF CYTOSTATIC AGENTS

### Update 2022

The prescription, preparation, delivery and administration of cytostatic agents footnote 1 is a multi-disciplinary task of the hospital pharmacist, medical specialist, nurse practitioner and nurse, in which it is important to ensure mutual harmonisation and coordination in order to achieve the desired quality of care.

The Dutch Association of Hospital Pharmacists (NVZA), the Dutch Association for Medical Oncology (NVMO), the Dutch Association for Haematology (NVvH), the Dutch Association for Physicians of Pulmonary Diseases and Tuberculosis (NVALT), the Association of Nurse Practitioners (V&VN VS) and the network of Oncology Nurse Practitioners (VSO) support this requirement and have jointly drafted this practical field standard to give substance to the assurance of this risky process.

The responsibilities that are to be undertaken can be distinguished as follows:

- Responsibilities for (hospital) pharmacists; footnote 2
- Responsibilities for medical specialists.
- Responsibilities for nurse practitioners.
- Responsibilities for nurses.

## General

A cytostatic agent for oral and parenteral administration is prepared and delivered by the pharmacy.

### Responsibilities of hospital pharmacists

1. The pharmacy will only start the preparation and delivery of cytostatic agents following receipt of a completely digital (via the electronic prescription system) footnote 2 request from an authorised prescriber, which states:
  - Patient's name and patient number.
  - Patient's date of birth.
  - Body weight (expiry date > 3 months), height, body surface area and MDRD/ e-GFR/serum creatinine (expiry date creat > 3 weeks) of the patient (if applicable).
  - Reference to the treatment protocol and/or trial number.
  - Generic name of the medicinal product.
  - Route of administration (intravenous, subcutaneous, oral, etc.).
  - Dosage per administration (administration dose).
  - Cycle number and cycle duration.
  - Date of administration and the day of the cycle (day 1, day 8, etc.).
  - Name and approval of the prescriber.
2. The pharmacy has the up-to-date and authorised treatment protocols, including trial protocols if applicable. These are labelled in a manner that allows for unique identification of the protocol. A review of the request for delivery of a cytostatic agent cannot take place if there is no treatment protocol present in the pharmacy, or if a deviation from the treatment protocol takes place without (adequate) motivation. In this situation, the pharmacist will not deliver the cytostatic agent.
3. The pharmacist or qualified employee who releases the cytostatic agents always checks the administration dose and the cycle dose based on the relevant treatment protocol (this check is performed via an automated cytostatic agent's system). The pharmacist is responsible for ensuring the correct delivery of a cytostatic agent beyond any doubt. This check always takes place prior to the administration. A system of delegated verification release by a suitably qualified employee can be used. A condition is that the administration dose and cycle dose have been checked by the pharmacist prior to the delegated verification. In addition, the staff member will be trained in the items that need to be checked during the verification. The entire process is described in procedures, which describe at least the following components:
  - Qualification and re-qualification programme for the staff member performing verification.
  - The staff member performing the verification has not been involved in preparing the relevant cytostatic agent for administration (VTGM actions) (i.e., the staff member performing the verification is not the person who prepared the drug);
  - The items that need to be verified by the qualified staff member, including at least a visual inspection.

The procedure also stipulates that the qualified staff member must contact the responsible pharmacist immediately, before delivery, if any abnormalities are detected.

4. To achieve verification of the maximum administration dose and cycle dose, the pharmacist keeps a record of the administered dose per patient per administration day for all cytostatic agents of which the maximum dose can result

in (irreversible) toxicity.

- Quantities of anthracyclines previously administered in other hospitals are recorded in a suitable system in the hospital, in order to track accumulation. This also applies to other cytostatic agents for which it can be assumed that a cumulative dosage control could be important (this concerns cytostatic agents for which a maximum dose per lifetime applies). The prescriber and the hospital pharmacist make adequately guaranteed and verifiable arrangements about the verification of a cumulative dose of a cytostatic agent.

Due to the high-risk nature of the medication and the vulnerability of the patients, the transfer of medication data between institutions must be guaranteed. Considering the diversity of institutions in which patients are treated with cytostatic agents, it is not advisable to publish a uniform, detailed national method for guaranteeing verification of cumulative dosages. Professionals should create their own inventory per location and should make agreements about this.

### Responsibilities of prescribers

- Cytostatic agents are prescribed according to current and specific, digitally recorded and authorised treatment protocols. Any deviations from these protocols should be motivated on the prescription.
- Authorised (at least by treating specialists and pharmacist) treatment protocols (and trial treatment protocols where applicable) are present in all hospital departments where cytostatic agents are prescribed, prepared and delivered or administered. All parties involved act according to these protocols.
- The prescribers are qualified. The medical specialist establishes the indication and prescribes the first treatment. The nurse practitioner in the oncology-haematology area of expertise can prescribe subsequent prescriptions, within their own area of expertise, according to local protocols (see Appendix K SONCOS: Quality requirements for the prescription of oncological systemic therapy by nurse practitioners). The institution should record which officials are authorised to prescribe cytostatic agents.
- The calculation of the cycle dose of cytostatic agents and the calculation of the dose per administration must be performed and recorded by a qualified prescriber.
- The hospital has systems available to keep track of and register the quantities of administered cytostatic agents. The prescriber and the hospital pharmacist make adequately guaranteed and verifiable arrangements about the verification of a cumulative dose of a cytostatic agent.
- The treating medical specialist is responsible for determining the previously administered cytostatic agents in another hospital. The medical specialist has access to the patient's data regarding previous treatment in a different hospital. Cytostatic agents for which the maximum dosage can result in (irreversible) toxicity are recorded in this system (described in 5).

### Responsibilities of nurses footnote 3

- All administrations of cytostatic agents are checked with the patient's treatment protocol in advance by the person performing the administration.
- Before administering the cytostatic agents, the qualified nurse will ensure that it is the correct product at the correct dose for the correct patient using to the correct route of administration and in the correct manner (according to the treatment protocol). A system involving a second check is in place.

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### Footnote

- Cytostatic agents are products that inhibit the cell division of cancer cells by intervening in the progress of the cell division cycle; such products intervene in the metabolism of cells, on the one hand by causing direct damage to the DNA and on the other hand by causing indirect damage via interference with various enzyme systems. In the context of this practical field standard, this refers to cytostatic agents for oral and parenteral administration prescribed intramurally.
  - The term (hospital) pharmacists also refers to pharmacists working in the hospital and hospital pharmacists in training, provided they have been declared qualified and skilled.
  - The term nurses refers to specialised nurses who have completed the oncology training.
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## APPENDIX H) QUALITY STANDARDS FOR RADIOTHERAPY IN THE NETHERLANDS

### Quality Standards for Radiotherapy in the Netherlands\*

(NVRO Quality Standards for Radiotherapy in the Netherlands – 2021 – version 5.0)

#### Introduction

The radiotherapy provided in the Netherlands is amongst the best in the world and is available to all residents in a good to sufficient manner.

Radiotherapy is an effective treatment with relatively low costs<sup>1</sup> that is used to treat approximately 45% of patients with cancer<sup>2</sup>, both for curative and palliative care. In the field of radiotherapy, the Netherlands also plays an important innovative role internationally, which results in continuous improvements in the quality of care through implementation of new radiotherapy technology.

Radiotherapy has been able to occupy this leading position in part because the specialism was subject to a licensing system – initially Article 18, later Article 2 of the Exceptional Medical Treatments Act (WBMV) – resulting in regulation of the capacity, demand for care and the distribution thereof based on recommendations by the Health Council of the Netherlands, scenario committees, planning decisions and the professional group.

The Planning Decision Radiotherapy 2009<sup>3</sup> concluded that radiotherapy (with the exception of proton therapy) satisfies the conditions to withdraw from the WBMV as of 01-01-2012 (effectuated as of 01-08-2014). This decision also indicated that the quality requirements of the professional groups, including the minimum size of a centre, remain fully in effect after withdrawal. Given this intention, a Committee of the Health Council advised the Minister of Health, Welfare and Sport to establish an accreditation obligation instead of the licensing system, for new and established providers, also taking into consideration the spread and concentration of radiotherapy care. The Minister has asked the NVRO to submit proposals for an accreditation document, which describes the standards that new and existing departments must comply with. In the case of a newly established department, the testing would have to take place prior to establishment.

Since the implementation of the current healthcare system, defined in the Healthcare Insurance Act of 01-01-2006, the role of the healthcare insurance companies has changed. They aim to purchase care selectively, based on standards and indicators, among other factors. They make use of the standards established by the field itself. This is another reason why it is very important that the NVRO describes the standards.

This document describes the standards that a radiotherapy department (both main location and satellite location) should satisfy according to the NVRO. The NVRO is of the opinion that these standards should be maintained by testing based on this document. The quality visitation forms an important testing moment for these standards.

#### The standards

The standards described below form an indissoluble whole and cannot be viewed separately from one another. We distinguish between:

1. Statutory and Ministerial standards
2. Quantitative standards
3. Qualitative standards

#### Re 1. Statutory and Ministerial standards

- Nuclear Energy Act
- Healthcare Institutions Quality Act
- Healthcare Inspectorate reports
- Medical Treatment Contracts Act (WGBO)
- Individual Healthcare Professions Act (Wet BIG)
- Social Support Act (WMO)

## Re 2. Quantitative standards

Radiotherapy is a highly complex form of oncology care. The NVRO report “Growing with Quality in Radiotherapy. A look ahead to 2015” (2007)<sup>2</sup> and the Health Council recommendation “Focus on radiotherapy. A look ahead to 2015” (2008)<sup>4</sup> define quality criteria for institutions where radiotherapy is performed or will be performed in the future. Departments can have a satellite location in addition to a main location (see 4). The following quantitative standards have been agreed upon for a Radiotherapy department:

- a. At least 4 linear accelerators (LA) at the main location or 3 accelerators at the main location and 2 accelerators at the satellite location.
- b. At least 8 radiation-oncologists and at least 6.4 FTE. In the case of one or more satellite locations, the total number of FTE radiation-oncologists per satellite location must be at least 1.6 FTE extra.
- c. At least 3 FTE clinical physicists, increasing to at least 4 FTE if the department has a satellite location.
- d. At least 36 FTE radiotherapy technicians.
- e. An institution of the aforementioned size performs at least 1600 As (DOTs treatments). The main location must perform at least 1200 category A treatments. In order to achieve this, the institution must have an adherent population of at least 500,000 residents<sup>2,4</sup>.

The following reservations apply to these standards:

1. The quantitative standards cannot be separated from the qualitative standards; together, they form an indissoluble whole.
2. The standards are based on standard operating hours (08:00 - 18:00).
3. The institution treats at least 4 major tumour types (breast, prostate, lung, rectum) across the entire spectrum of the condition (stage I-IV). A number of relatively rare conditions and treatments are concentrated at a national level (for example: total skin irradiation, hyperthermia, irradiation of ocular tumours and brachytherapy for cervical cancer). However, the main location of the institution where radiotherapy is performed is able to offer the other radiotherapy care.

If a department is unable to comply with all standards but does satisfy 4 of the 5 aforementioned standards (a through e), then an alliance can be formed with a Radiotherapy department that does satisfy all the standards. These departments can jointly provide responsible care. A satellite location cannot form part of the alliance. The alliance is recorded in a written agreement. This collaboration agreement describes at least:

- The partners between which the agreement has been reached and their legal position.
- Which treatments will not be performed by the partner in question.
- In which manner the care and logistics will be arranged for these patient groups.
- The manner in which the partner participates in the MDCs in which these patients are discussed.
- Which agreements have been made about treatment protocols.
  - o How the medical and other responsibilities have been organised (if applicable).
  - o The manner and interval in which the collaboration will be evaluated.
  - o The grounds on which the collaboration can be terminated.

If quality requirements are set for the radiotherapy care, which have been authorised by the NVRO, then these quality requirements must also be satisfied within alliances. If a department does not satisfy two or more of the standards (a through e), then a temporary alliance of no more than 2 years will be condoned. This should then result in the establishment of a satellite location or a department that does satisfy at least 4 of the 5 standards.

4. Departments can also opt to run satellite locations for various reasons (such as expansion of capacity, spread and concentration of oncology care). A satellite location is defined as a treatment location that is affiliated with and functions under the responsibility of the main location. In addition – if radiations are performed at more than one location – at least the following prerequisites must be satisfied:
  - 4.1. The satellite location has at least two clinically available linear accelerators.
  - 4.2. The facilities have compatible equipment, unity of policy, quality systems, treatment and training, to guarantee continuity and interchangeability of treatments.
  - 4.3. The availability of clinical, physical and technical/IT expertise is sufficiently guaranteed in both quantitative and qualitative terms.



- 4.4. The radiation preparation (treatment planning) for all locations is performed and managed centrally, or in a decentralised manner under the supervision of the main location. At least 1200 plans are drawn up at the main location.
- 4.5. The radiation-oncologists and physicists at the satellite location also work according to focus areas. There is one team of radiation-oncologists and one team of clinical physicists with defined tasks and focus areas. The main location operates at least one day per week.
5. The healthcare system is developing rapidly. Therefore, these standards have a limited “shelf life”. The standards document will be updated regularly as a result.

**Focus areas:**

Despite limitations, the NVRO has opted to maintain these quantitative standards in the interest of maintaining quality. The requirements for the size of the medical and physical staff are based on the starting point that a generalist radiation-oncologist without support from the super-specialist cannot be deemed capable of offering responsible care.

*Definition of focus areas:*

The field of oncology is divided into focus areas. The NVRO considers the following areas as separate focus areas:

- Breast cancer
- Lung cancer
- Head & neck tumours
- Neuro-oncology
- Urological tumours
- Gastro-intestinal tumours
- Haematological tumours
- Paediatric oncology
- Skin tumours
- Sarcomas
- Gynaecological tumours
- Benign pathology
- Palliative care (for the definition of the palliative care focus area, refer to footnote consensus LPPR 4/2021)

*Forerunner:*

Each focus area has a forerunner (and a replacement) who participates in the National Platform, the tumour-specific MDCs and who keeps his knowledge up to date by attending at least one conference specific to the focus area every 2 years, and who also participates in guideline development where applicable. This super-specialisation ensures that the highest level of care can be provided. A department appoints one forerunner per focus area. If this is not feasible due to a small number of radiation-oncologists, then the department should start collaborating with another department. Radiation-oncologists from the smaller department should also participate in protocol discussions and should easily be able to consult the forerunner from the other department.

*Number of focus areas:*

A radiation-oncologist has 2-3 focus areas (exceptions listed below). At least two radiation-oncologists are available per focus area in connection with the necessary back-up. A division per focus area also applies to the clinical physicists. The “specialist” radiation-oncologist has sufficient knowledge and skills in radiotherapy that may be required during shifts. There is an exception to the standard of having at least 2 focus areas for heads of departments and radiation-oncologists who are exempt from patient-related tasks in order to conduct scientific research on at least 2 days per week. In such cases, one focus area will suffice.

An exception can also be made for the minor focus areas (skin tumours, benign pathology, sarcomas) as the developments in these fields occur relatively slowly and the number of patients per department is low. In addition to two major focus areas, a radiation-oncologist may also have no more than 2 minor focus areas.



*Care for patients outside the practitioner's own focus area.*

Consultation and radiotherapy preparations (marking, plan evaluation) are inherently reserved for the radiation-oncologists with the specific focus area. In addition, supporting care during the treatment (support for side effects, IGRT/adaptive decisions, etc.) and follow-up care should – in principle – also be performed by a radiation-oncologist with the required focus area. However, each radiation-oncologist is expected to maintain adequate basic knowledge and experience in order to provide this care outside of his/her own focus area on an occasional basis (followed by swift consultation with a colleague in the relevant focus area afterwards, if necessary).

#### MDC

Participation as a consultant in a (focus area-specific) MDC can only be performed by a radiation-oncologist and not by a physician assistant. Only a radiation-oncologist in the same focus area can participate.

#### *Minimum number of patients:*

A radiotherapy department (main location and satellite location) must demonstrate that there is a demand for care that enables the department to satisfy these quantitative requirements, without detriment to the quality and accessibility of radiotherapy regionally and nationally. After all, the institution is not only obliged to offer responsible care per institution, but also to guarantee the proper distribution of care in the Netherlands.

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#### **Footnote definition of palliative care focus area (consensus LPPR 4/2021)**

The following criteria have been established in order to qualify for the palliative care focus area. Participation in the LPPR is a requirement, to remain informed about developments (through presence at meetings or via notes/email), combined with at least 3 of the following conditions:

- Providing specialised palliative radiotherapy care (such as stereotactic radiotherapy, oligometastases, re-irradiation for palliative care, stability of the spine (SINS), etc.)
- Participation in the palliative care MDC in the own hospital or attending the palliative care consultation team or – for example – MDC spine with orthopaedic/neurosurgery.
- Responsible for departmental protocols and guidelines on palliative care and radiotherapy
- Positioning of the own department at regional and national level (e.g., by participating in scientific studies on palliative care)
- In the case of a teaching hospital, offering active training on palliative care indications for radiotherapy.
- Knowledge/awareness of potential interaction between palliative radiotherapy and new systemic drugs
- Training in palliative care (e.g., national 9-day course on palliative care, ESTRO course Palliative Care & Radiation-oncology)

Note. The primary role of a radiation-oncologist with a palliative care focus area remains that of radiation-oncologist and NOT a consultant in palliative care.

Note. It is important to note that every radiation-oncologist who does NOT have palliative care as a focus area can also provide specialised palliative radiotherapy from the other focus areas, e.g., performing stereotactic radiotherapy for the focus area "lung".

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### **Re 3. Qualitative standards**

These should be considered as standards for "Good Radiotherapy Practice":

- The institution participates in various external quality audits/visitations, at least those by the
- NVRO/NVKF/NVMBR.
- The institution offers state-of-the-art care, uses modern technology such as stereotactic radiotherapy and follows national and/or regional multi-disciplinary guidelines and can provide transparent motivation for any deviation from these guidelines.
- The institution has a proven track record of participation in the multi-disciplinary consultations of the referring institutions regarding the various tumour types.
- The institution has an established policy regarding quality and safety, particularly also regarding equipment, dosimetry and performing radiation.

- The institution participates in the cancer registration and can provide the registration data for recognised performance indicators.
- The institution has a register of complications and implements verifiable measures accordingly.
- The institution registers the waiting and processing times of patients and conforms to the applicable national guidelines.
- The institution participates in chain care with other disciplines, which – in addition to organ-specific disciplines – also involve medical-oncology, pathology, radiology, nuclear medicine and preferably also palliative care, psychosocial care and clinical genetics.
- All employees of the institution follow training on an ongoing basis, in accordance with national requirements or – in the absence of such requirements – according to the institution’s own training plan, with the aim to ensure that each employee offers optimum care.

#### Re 4. Brachytherapy

If the institution offers gynaecological brachytherapy<sup>5</sup>, then the brachytherapy team consists of at least two radiation-oncologists, two clinical physicists and two radiotherapy technicians. This team has completed the GEC-ESTRO course for gynaecological brachytherapy.

The planning and treatments are performed in accordance with the GEC-ESTRO guidelines.

- There is no need for centralisation in the case of cylinder/ovoid vaginal top applications:
  - The team treats at least 10 patients and performs 20 procedures per year, on average over three years.
- There is a need for centralisation in the case of intra-uterine applications:
  - The team treats at least 10 patients and performs at least 20 procedures per year, on average over three years.
  - An MRI scan is performed at least 1x as part of the planning, with the applicator in position, preferably during the first application.
  - In addition to the intracavitary applicator, it must be possible to use the interstitial technique combined with this applicator, in that case certainly with MRI planning.
- There is a need for centralisation in the case of interstitial brachytherapy (other than interstitial in combination with intracavitary for cervical cancer).

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\*This version of the document was discussed and approved by the members of the NVRO during the meeting on 16-06-2017

<sup>1</sup>Norlund A; SBU Survey Group. Costs of radiotherapy. *Acta Oncol.* 2003;42(5-6):411-5. <sup>2</sup>The NVRO report “Growing with Quality in Radiotherapy. A look ahead to 2015”. June 2007.

<sup>3</sup>Regulation by the Minister for Health, Welfare and Sport on 23 October 2009, No. CZ/TSZ-2963442, establishing the Planning Decision Radiotherapy 2009. <sup>4</sup>Health Council. “Focus on Radiotherapy. A look ahead to 2015”. The Hague: Health Council, 2008; publication No. 2008/27.

<sup>5</sup>This brachytherapy standard was discussed and approved by the members of the NVRO during the meeting on 14-6-2013.

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## APPENDIX I) QUALITY CRITERIA AYA CARE

AYAs (Adolescents and Young Adults) are defined as people aged 18 to 39 years who are diagnosed with cancer for the first time.

Age-specific AYA care for AYA patients is initiated by the National AYA “Young & Cancer” Care Network ([www.ayazorgnetwerk.nl](http://www.ayazorgnetwerk.nl)). This partnership of general hospitals, university hospitals and the Antoni van Leeuwenhoek Netherlands Cancer Institute (AVL) is supported by the central coordination team, which operates under the direction of the Board of the AYA Care Network. The national network is composed of six regional networks, each containing the general hospitals that are geographically located in the vicinity of the eight regional AYA knowledge centres, namely the seven university hospitals and the AVL. The eight AYA knowledge centres each have an AYA outpatients’ clinic for a) professional consultation and b) providing complex AYA care. The contents and organisation of the age specific AYA care are centrally evaluated on an annual basis according to the quality criteria.

The AYA care follows the tumour-oriented care and treatment and forms an integral part of the total oncology care and treatment of the AYA. Integral AYA care is multi-disciplinary “stepped care” and is provided by a team of physicians, nurses, nurse practitioners, psychosocial care workers and paramedical staff surrounding the AYA patient. All these healthcare professionals work together closely and in a united manner, with a joint focus on guaranteeing an optimum quality of life for the AYA.

The determination of the AYA care needs within the standard contact moments per specialisation starts from the diagnosis and ends at the end of the follow-up phase.

- The main treating physician is responsible for the tumour-oriented care and treatment. These are and remain tailored to the care needs and quality of life of the AYA patient.
- The main treating physician initiates the age specific AYA care for the AYA patient, transfers this care to the nurse (focus area specialist) and maintains close contact with the team of AYA healthcare providers.
- The nurse with focus area specialisation remains “in the lead” to guarantee and continue the age specific AYA care.
- The nurse a) actively enquires about the age-specific care needs from the diagnosis and during the standard contact moments, b) consults with the physician about these care needs in a timely manner to ensure optimum tumour-oriented treatment, c) intervenes directly in terms of age-specific care needs or consults healthcare providers if other expertise is required and d) coordinates the continuation of age-specific care.

In accordance with the guideline on fertility preservation, each AYA has been informed about the consequences on his/her fertility before the start of the anti-tumour treatment and will be offered a counselling meeting with a fertility specialist or gynaecologist with expertise in the field of fertility preservation. If necessary, an AYA will be referred if this option does not exist in their own hospital.

### **AYA care organisation in the hospital:**

- A. For hospitals that do not offer AYA care, because the incidence is less than or equal to 10 AYA patients per year, a medical and nursing contact person must be available for AYAs from diagnosis, who can refer them to a regional AYA knowledge centre with a multi-disciplinary AYA outpatients’ clinic ([www.ayazorgnetwerk.nl](http://www.ayazorgnetwerk.nl)).
- B. General hospitals and the specialisations within the university hospitals / AVL who are authorised to offer the tumour-oriented treatment and care in which the age-specific AYA care has been integrated, in accordance with current tumour guidelines, have integrated the AYA care pathway within the tumour-specific care pathways. The following applies:
  - I. The age specific AYA healthcare that anticipates the needs of AYA care, the coordination of this multi-disciplinary healthcare and the guarantee of continuity of this healthcare are the responsibility of the nurse.
  - II. The AYA focus area specialists (nurses, case managers, nursing consultants, nurse practitioners) offer the basic AYA care within the existing, standard contact moments of the specialisation in which they are employed, both for inpatients and outpatients.
  - III. This focus area specialist uses the AYA medical history questionnaire to establish the care needs of the AYA

patient during the entire treatment and follow-up process and anticipates accordingly.

- IV. The AYA care needs are registered and monitored in the EPD, to guarantee transition, continuation and coordination of age specific AYA care by a multi-disciplinary team of doctors, nurses, nurse practitioners, psychosocial care providers and paramedical staff.
- V. AYA care needs casuistry is discussed in a multi-disciplinary consultation with all involved healthcare providers.
- VI. If the nursing expertise is not sufficient, then another (para)medical healthcare professional or psychosocial care provider (for example, medical social worker, psychologist, dietician, pastoral care) can be involved in the care. The nurse retains control and guarantees the continuity of care.
- VII. For complex, multi-disciplinary AYA care, patients can be referred to the multi-disciplinary AYA outpatients' clinic of an AYA knowledge centre at a university hospital / the AVL with regard to complex, age-specific care demands and problems, following an inter-collegial consultation of this team by healthcare providers from the general hospital or the department within a university hospital / the AVL to consult about whether the required expertise for complex AYA care problems is available in the hospital or department where the AYA is being treated.

C. The multi-disciplinary AYA outpatients' clinic of an AYA knowledge centre at a university hospital / the AVL offers inter-collegial (regional) consultations and care for complex problems regarding AYA care needs.

- I. The AYA outpatients' clinic of the AYA knowledge centre at a university hospital / the AVL consists of at least a medical specialist, a specialised nurse / nurse practitioner with specific knowledge about age-specific problems and a psychosocial care provider.
- II. There is also an option to consult or include in the team of the AYA outpatients' clinic, other healthcare professionals relevant to the individual patient, such as – for example – a paramedical practitioner and the clinical occupational physician. The option is provided to submit AYAs to an AYA-MDC led by the regional AYA outpatients' clinic at a university hospital / the AVL.

#### Expertise criteria

The AYA healthcare professionals from all disciplines and specialisations follow (compulsory) parts of the (national and regional) training programme of the AYA Care Network to improve their expertise in AYA care.

## APPENDIX J) PROFESSIONAL PROFILE OF THE NURSE PRACTITIONER

The professional profile of the Nurse Practitioner, including the field of expertise "oncology", can be consulted via the website of the V&VN VS: <https://venvnvs.nl>

- A nurse practitioner (NP) has a nursing background and is BIG-registered.
- A NP is an independent practitioner.
- A NP is often a fixed point of contact in the chain.
- A NP has also completed oncology training or has completed the basic training for medical-oncologists.

## APPENDIX K) QUALITY REQUIREMENTS FOR THE PRESCRIPTION OF ONCOLOGICAL SYSTEMIC THERAPY BY NURSE PRACTITIONERS.

V&VN VS and NVMO jointly concluded that the deployment of nurse practitioners does not amount to the replacement of medical-oncologists, but rather that the joint implementation of each of their unique expertise results in improved oncology care. Based on the training completed by nurse practitioners, some of their competencies can overlap with those of internist-oncologists.

V&VN VS and NVMO have concluded that nurse practitioners should be subject to quality requirements to ensure safe prescription of oncological systemic therapies.

**These quality requirements, categorised by topic, are:**

The training for a nurse practitioner in the area of expertise “oncology”:

- Nurse practitioners should acquire skills during their training to prescribe oncological systemic therapies relevant to the area of expertise of the nurse practitioner.
- These skills are acquired during the practical component of the master Advanced Nursing Practice, in close coordination with the supervising medical specialist.
- In this case, the medical specialist refers to: the medical specialist with proven qualifications (i.e., adequate training and relevant experience in the therapy to be administered) in the use of the relevant therapy, including complications, as defined in the SONCOS standardisation.

**Re-registration as a nurse practitioner in the area of expertise “oncology”**

- Upon completion of the training, the nurse practitioner must satisfy the requirements for re-registration, based on which the competence of their professional practice as a nurse practitioner is maintained, and the degree of competence increases.
- The nurse practitioner in the area of expertise “oncology” will organise their training regarding re-registration in a manner to ensure that she/he remains informed of the current state of scientific knowledge regarding the oncological systemic therapies that she/he prescribes.
- Training by the NVMO about oncological systemic therapies will be open to – and where possible accredited for – nurse practitioners, so that they can be informed about the current state of scientific knowledge in the field of oncology.

**The prescription of oncological systemic therapies**

- The indication for the oncological systemic therapy is set by a medical specialist, in agreement with the multi-disciplinary consultation, which the nurse practitioners in the area of expertise “oncology” should preferably form part of.
- The treatment protocol is discussed with the patient by the medical specialist. The medical specialist establishes the indication for the first treatment.
- If qualified, the nurse practitioner in the area of expertise “oncology” then prescribes the oncological systemic therapies within his/her own area of expertise.
- The area of expertise in which a nurse practitioner can prescribe oncological systemic therapy is determined per institution by the medical specialists and hospital pharmacists. This is evaluated on an annual basis. The initiation and termination of a treatment plan happens in consultation with the medical specialist. The adjustment of the dosage (based on – for example – kidney function, liver chemistry, co-morbidity, side effects / toxicities, complications, etc.) happens in consultation with the medical specialist.
- The nurse practitioner ensures clear communication towards the patient about the prescription of oncological systemic therapies. The patient is always aware of who is responsible for which part of the treatment at which point in time and what the role of the nurse practitioner is in the treatment with oncological systemic therapies.
- The nurse practitioner and the partnership in which she/he works with medical specialists will ensure mutual agreement about the oncological systemic therapies.
- The option for coordination with a medical specialist is always guaranteed. Part of the expertise of the nurse practitioner is to guard the boundaries of his/her skills and to seek assistance from the medical specialist as soon as the nurse practitioner encounters these boundaries.

## APPENDIX L) NVMO COMBINATION THERAPY IMMUNOTHERAPY / IO-IO

### Criteria:

- Hospitals must be a recognised centre for the treatment of the tumour type for which the combination treatment is offered (see SONCOS standardisation document and the general quality standardisation document medical-oncology).
- Hospitals must meet the standards for immunotherapy according to SONCOS.
- Hospitals must have more than 2 years proven experience in the treatment using monotherapy immunotherapy.
- An on-call medical-oncologist with knowledge of the combination treatment is available 24 hours per day.
- All patients are registered in the registry for the specific tumour type before starting the combination treatment.
- The registration and the method of registration are compulsory to continue being able to offer the combination treatment.
- Hospitals can demonstrate proven, active participation in relevant conferences, trials and national working groups, such as WIN-O melanoma and DRCCG.

## APPENDIX M) NVALT CRITERIA FOR IMMUNOTHERAPY

A- Volume standard: hospitals that offer immunotherapy for lung cancer must offer > 20 new patients per year immunotherapy for lung cancer (including mesothelioma) by the pulmonologists.

B- At least 1 pulmonologist in hospitals that offer immunotherapy has proven qualifications in the treatment of patients with immunotherapy for lung cancer.

C- Structure:

1- There is an MDC for immunotherapy, involving specialists with experience in immunotherapy and specific knowledge of side effects.

2- There is a dedicated team of specialists (in addition to the MDC), with knowledge of (parts of) the side effects of immunotherapy. Such a team consists of at least an endocrinologist, gastroenterologist, dermatologist and a pulmonologist with experience in immunotherapy.

D- Registration of IO takes place via DICA (DLCA-L).

### Text Criteria IO-IO

- A hospital must satisfy the criteria established by the NVALT to administer immunotherapy in the form of PD-(L)1.
- A hospital must have experience with >100 patients treated with PD-(L)1 in the last 5 successive years for the indication of thoracic malignancy, by the pulmonologist. If a hospital treats fewer than 10 patients per year with the PD-(L)1-CTLA4 targeted immunotherapy combination for thoracic malignancy, the hospital is urgently advised not to allow the treatment to take place in that hospital, but rather to have agreements in place to refer the patient to a (regional) centre.

## APPENDIX N) CRITERIA FOR CENTRES FOR LUNG CANCER PATIENTS WITH RARE DNA ABNORMALITIES

Lung cancer is characterised by abnormalities in the DNA that are responsible for the growth of the tumour. In the case of adenocarcinomas, DNA abnormalities occurring in <5% of cases are considered rare. As a growing number of targeted treatments are becoming available, the patients with these rare tumours are best treated in specialised centres. The NVALT has drawn up criteria that these centres must satisfy to offer good patient care.

### 1. Quality of care

1. Highly specialised, often complex care in the diagnosis, treatment, aftercare and follow-up of patients with a rare driver mutation.
2. Develops care standards and guidelines and contributes to the dissemination of these.
3. Facilitates a Molecular Tumour Board for consultation and advice about molecular abnormalities in lung cancer.

4. Coordinates the care provided throughout the chain for targeted treatments.
5. Facilitates scientific developments in the diagnosis, treatment and monitoring of patients with driver mutations, as evidenced by scientific publications and participation in clinical trials.

## 2. Education and training

1. Facilitates the training of and transfer of knowledge to new experts.

## 3. Collaboration with other parties

1. Works together with patient organisations to improve the quality of care.
2. Works together with other expertise centres – nationally and internationally – in the field of research and patient care.

## 4. Information and communication

1. Acts as a source of information and resource for healthcare providers, patients and their families.
2. Provides education about targeted treatments and accompanying diagnostic techniques, such as NGS.

## 5. Research

1. Performs (fundamental) scientific research in the field of rare mutations. This is evidenced by 10 publications on this topic in the past 5 years by employees of this centre.

## 6. Cross-border healthcare

1. Coordinates and advises on cross-border healthcare with other centres in EU countries where patients and biological samples can be referred to.

## APPENDIX O) JUSTIFICATION OF SONCOS STANDARDISATION REPORT

Publication: February 2023

Valid from: January 2024

### Initiative and involvement

All participants in the Oncology - SONCOS platform are involved in the drafting of the standardisation report. The participants are listed below.

Netherlands Association for Surgeons in Oncology*	NVCO
Netherlands Association for Medical Oncology	NVMO
Netherlands Association for Radiotherapy and Oncology	NVRO
National AYA "Young & Cancer" Care Network	AYA
Netherlands Ophthalmological Society	NOG
Netherlands Orthopaedic Association	NOV
Netherlands Association of Physicians for Lung Diseases and Tuberculosis	NVALT
Netherlands Association of Gastroenterologists-Hepatologists	NVMDL
Netherlands Association for Dermatology and Venereology	NVDV
Netherlands Association for Endocrinology	NVvE
Netherlands Association for Gastro-intestinal Surgery*	NVGIC
Netherlands Association for Surgery	NVvH
Netherlands Association for Ear, Nose and Throat Surgery	NVKNO
Netherlands Association for Clinical Occupational Medicine	NVKA
Netherlands Association for Clinical Geriatric Medicine	NVKG
Netherlands Association for Lung Surgery*	NVvL
Netherlands Association for Oral Diseases and Maxillofacial Surgery	NVMKA
Netherlands Association for Neurosurgery	NVvN

Netherlands Association for Neurology	NVN
Netherlands Association for Nuclear Medicine	NVNG
Netherlands Association for Obstetrics and Gynaecology	NVOG
Netherlands Association for Pathology	NVVP
Netherlands Association for Plastic Surgery	NVPC
Netherlands Association for Psychiatry	NVvP
Netherlands Association for Radiology	NVvR
Netherlands Association for Thoracic Surgery	NVT
Netherlands Association for Urology	NVU
Netherlands Association of Hospital Pharmacists	NVZA
Netherlands Working Group for Head & Neck Tumours	NWHHT
Nurses & Carers Netherlands Oncology	V&VN oncology
Netherlands Association for Clinical Genetics	VKGN

\* The NVCO, NVGIC and the NVvL are official sub-associations of the Netherlands Association for Surgery (NVvH)

### Objective and delineation

#### Objective of the standardisation report

The objective of the SONCOS standardisation report is to describe a uniform, multi-disciplinary quality framework for oncology care, which is updated annually. The report describes the requirements that institutions must satisfy if they wish to offer oncology care. Standards are not an aim in itself but are based on the desire by medical specialists to improve the care for their patients on a continual basis.

#### Delineation

The general part of the SONCOS standardisation report applies to all institutions that wish to offer oncology care. Haemato-oncology and paediatric oncology are exempt from this, because they have their own quality frameworks.

The tumour-specific part describes which standards apply to which tumours per tumour type.

Further specifications of the delineation per standard, as described here, can be provided in both the general and tumour-specific parts.

#### Working method

The SONCOS standardisation report is revised annually in a fixed cycle in which all members are involved. The annual cycle is presented visually in figure 1.



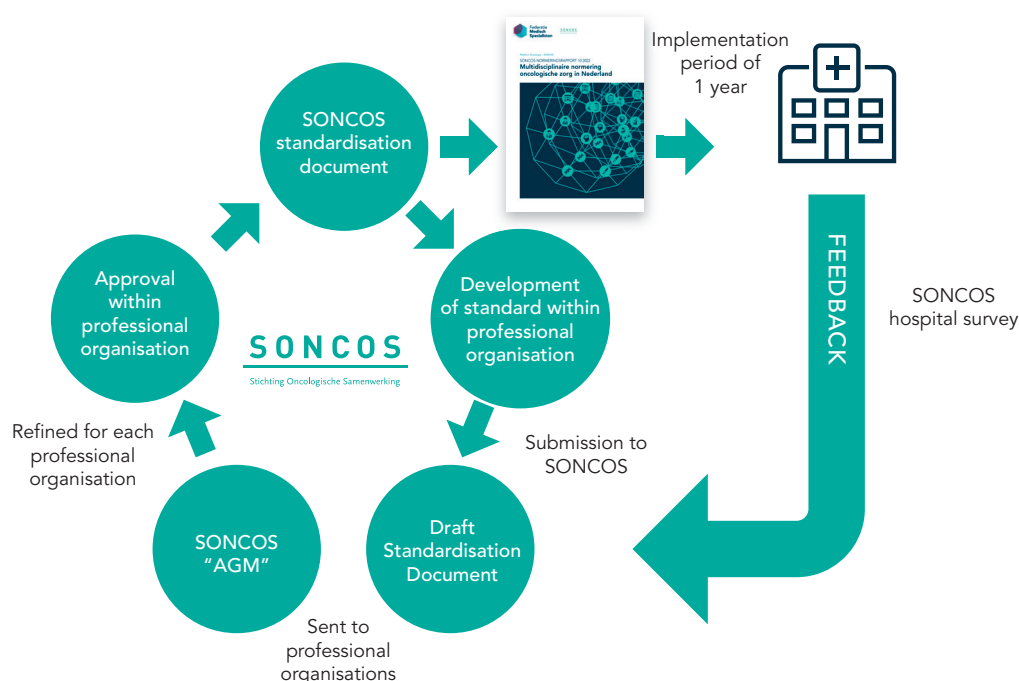


Figure 1. Annual cycle for revision of the SONCOS standardisation report

### Collection of input/change proposals

In the period from January through to the end of August each year, the various associations can submit their proposals for changes to the Oncology – SONCOS platform. The associations submit proposals for change that are primarily based on their own quality documents. The SONCOS standardisation report is a multi-disciplinary standardisation report. Therefore, the initiating association must harmonise the change proposals with other relevant associations and reach a consensus before submitting the proposals to the Oncology – SONCOS platform.

### Commentary phase

All the submitted change proposals will be collected by the Oncology – SONCOS platform and discussed within the platform management.

Following collection of the change proposals, an overview of the changes and a draft version of the amended standardisation report will be submitted to all participating associations of the platform. The participating associations are given the opportunity to comment on the draft standardisation report. This will be discussed during the autumn GMM to achieve consensus. The standardisation report is a consensus document, which means that changes to the document will only be implemented if the platform has reached consensus on this.

### Authorisation and publication phase

Once consensus has been achieved about the changes, the finalised version will be submitted to the participating associations for authorisation.

Following the authorisation phase, the standardisation report will be published in February on the website of the Oncology – SONCOS platform. In addition to the new standardisation report, a version with the changes compared to the previous year will also be published. The standardisation report comes into effect in the following calendar year. The institutions have one year to implement and comply with the standards, unless stated otherwise.

### Compliance with standards

Each year, the healthcare institutions that provide oncology care are reviewed to check for compliance with the standards in the standardisation report. Since reporting year 2021, this process is completed via the Transparency Calendar and the results are publicly available. The review is updated each year, based on the standardisation report and the results of the reviews from previous years. The new standards ready for review will be added to the review.

The standards that all healthcare institutions have satisfied for several years in a row will be removed from the review. The results of the review can also provide input for the standardisation report, for example if it becomes evident that standards need to be tightened up.

## APPENDIX P) JUSTIFICATION OF STANDARDS FOR ONCOLOGY NETWORKS

The Oncology – SONCOS platform appointed a working group in 2020, tasked with establishing a set of standards that describe the characteristics of a good oncology network based on a multi-disciplinary approach and taking daily practice into consideration. Oncology care is increasingly offered in a network setting of one or more institutions. Standards have been established for these networks, to monitor and guarantee the quality of care in networks. To draft an initial version of the set of standards, the working group looked broadly at existing standards and other quality documents about network care and collaboration agreements of existing networks. The elements that corresponded in the various documents were highlighted. These elements were converted into a first draft of standards for oncology networks. These were discussed in detail by the working group and adjusted where necessary. The first draft of these new standards was also discussed with stakeholders such as the Netherlands Association of Hospitals (NVZ), the Federation of University Medical Centres (NFU) and Healthcare Insurers of the Netherlands. The input and feedback from these discussions was used to finetune the standards further to achieve a finalised draft, which was submitted as a change proposal in the report for 2022. The usual cycle for commentary and authorisation was completed for the standards for oncology networks.

Composition of the Working Group on standards for oncology networks:

Prof. H.J. (Haiko) Bloemendal (chair)

Prof. M. (Marcel) Verheij

Dr M. (Maartje) Los

Dr A.J. (Arjen) Witkamp

Dr P. (Peter) van Duijvendijk

Dr E. (Eveliëne) Mantén-Horst

Ms A. (Annerie) Slot

Prof. A.F.T.M. (Ad) Verhagen

Prof. C.R.N. (Coen) Rasch

Prof. M.W.J.M (Michel) Wouters

C. (Cora) Vegter, replaced since August 2021 by E. (Esther) Klein Zeggelink-Grijsen

With support from:

Ms B.W.H. (Belinda) van de Lagemaat-Brasser

M. (Marieke) Hermsen MSc





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