Tromsø 25.1.2009

Specialty in clinical dentistry

Premises

The Norwegian government wants to establish a new specialty in 'Clinical dentistry' including endodontics, periodontology and prosthetics/masticatory function. The Directorate for Social Affairs and Health (S&HDir) is asked by the government to lead this development. The Board for Specialist Education in Norway has unanimously recommended that the dental milieu in Tromsø (The institute of Clinical Dentistry, University of Tromsø (IKO) and The Public Dental Service Competence Center of Northern Norway (TkNN)) should lead this development (Letter of 21.12.07. from S&HDir).

This task includes two phases

1. Develop a curriculum for a Specialty in Clinical Dentistry in accordance with the guidelines for specialty education in Norway
2. Describe program organization and economical requirements

According to the guidelines from S&HDir, the program should be organized in accordance with the principles of a decentralized educational model. Further, a possible collaboration with other Nordic countries, the Barents region (Arkhangelsk) and Baltic countries should be explored. Chief dental officers should be influential in the selection of candidates.

The following planning committee has been appointed and had its first meeting in Tromsø, March 27. – 28.

University lector Yrsa Le Bell, Institute of Clinical Dentistry, University of Turku, Finland
Chief dental officer Rolf Mensen, Public Dental Health, Bodø
Dentist Ragnhild Nordengen, TkNN, Tromsø
Professor Claes-Göran Crossner, IKO, University of Tromsø
Professor Harald M Eriksen, IKO, University of Tromsø

In the following, the main conclusions from discussions in the planning committee are presented:

Specialty in Clinical Dentistry – purpose and characteristics

- 'Clinical Dentistry' should appear as a comprehensive clinical specialty with a 'holistic' profile placing the patients' needs in the center. The specialty is aiming at adult patients' needs, emphasizing a balanced, patient-centred approach to treatment.
- It should contain consultation and advisory duties in addition to clinical activities.
- It should have a competence-enhancing effect, particularly within the public dental health service
- It should act as an 'extension' of regional competence center activities

Guidelines according to the questions raised in the letter from S&HDir 21.12.07.

Content

In addition to the original topics endodontics, periodontology, prosthetics/masticatory function, the planning committee suggests that oral diagnostics and treatment planning, simple dento-alveolar surgery and gerodontology, should be included. The curriculum profile should be influenced by a community dentistry approach. A 'holistic' approach should be emphasized qualifying the candidates for a balanced approach to complex cases.

Borderline to other specialties

After graduation, the candidates should be able to independently and proficiently master diagnosis, therapy planning and integrated treatment of advanced cases in a 'holistic' context. In this context it will be important to establish collaboration with established specialties during the program.

'Class' or module organization

Classes of 4 candidates as a start, proceeding as a group, not according to individual plans

A decentralized design

This require access to local clinical facilities equipped with modern communication technology.

Evaluation

Evaluation methods according to guidelines in the 'Bologna process', the Norwegian Quality Reform for Higher Education and the Guidelines for Specialty Education in Norway will be developed. Both clinical and theoretical aspects will be evaluated. In addition, a written research project is required.

Intake of candidates

Intake should be according to generally accepted criteria. Chief Dental Officers should have substantial influence and were geographical considerations and clinical competence should weight more than academic achievements. A quota from Northern Norway should be 60%. A minimum of two years general dentistry experience is required, preferably more.

Future career

The future career could be either public or private.

Economy

The program has to be fully financed including salary, travelling and accommodation expenses covered for the participants.

Organisation

The program should be organized as a project in collaboration between S&HDir, IKO and TkNN

In the process of designing the curriculum, the following documentation has been essential:

Specialty programs from the dental faculties in Oslo and Bergen
Swedish specialty programs
"Specialist education". Faculty of Dentistry, University of Turku
American "Graduate programs in Clinical Dentistry"
Sanz M, Widström E, Eaton K. Is there a need for a common framework of dental specialties in Europe? Eur J Dent Educ 2008;12:138-143

Specialty in clinical dentistry

Curriculum

Responsible unit(s): Instiutue of Clinical Dentistry in collaboration with the Clinical Competence Center for Northern Norway

Last revised: 01.12.2008

Mandatory entry requirements: Master-degree in dentistry (cand.odont.) and two years of general dental practice

Topic description

The specialty “Clinical dentistry” includes endodontology, periodontology, prosthetic dentistry, masticatory function and gerodontology. I addition, oral diagnostics and treatment planning will be emphasized. The theoretical topics will be presented by the scientific staff at The Institute of Clinical Dentistry (ICO), while clinical tutors will be recruited from the Clinical Competence Center for Northern Norway (TkNN).

In accordance with premises stated in NOU 5-99 ‘Utdanning av spesialister og opprettelse av regionale odontologiske kompetansesentra’, ‘Lov om spesialistutdanning av tannleger’, letter of Dec.21th from S&HDir and conclusions from discussions in the planning committee, the following curriculum design is accepted by The Directorate of Health Dec. xx 2008

General guidelines

The program is of three years full time duration

A decentralized model is emphasized

Intake is based more on clinical competence and geographical location than scientific Qualifications

Purpose

The program is focusing on adult oral health in a comprehensive, ‘holistic’ context.

‘Clinical dentistry’ is aiming at both clinical, consultation and advisory duties

The program should have a competence – enhancing effect among general practitioners

The program should act as an ‘extension’ of regional competence center activities

‘Clinical dentistry’-candidates should develop close collaboration with established specialists

General aims

After graduation, the specialist in ‘Clinical dentistry’ should be qualified for:

- Comprehensive (holistic) diagnostic, treatment planning, preventive and treatment activities for adults within the clinical fields mentioned under ‘Content’ p.2.
- Consultation and advisory duties
- Giving priority to underprivileged/chronically ill/disabled individuals/groups
- Advanced clinical treatment of complicated and/or extensive cases within the areas covered by the specialty program

- Informing about and applying relevant social security laws for financial support and regulation of clinical activities
- Adapt and acknowledge the need for proper referral routines to more highly specialized personnel when necessary
- Contribute to continuing and graduate education programs acting as a resource person
- Consultation activities including diagnosis and treatment planning of complex cases
- Perform as clinical tutor in student education programs
- Critical evaluation of scientific literature and aspects of evidence-based dentistry
- Conduct case presentation sessions and written case reports

Specialty in Clinical Dentistry

Curriculum design

The following figure is presenting a broad outline of the curriculum illustrating the topics included and the balance between centralized and decentralized activities. There should be compliance between topics listed in the introductory module and those presented in the curriculum outline. (5) Tutor functions, both centralized and decentralized, shouls be performed by recognized specialists. Electronically guided tutoring will be secured with the external clinics.

Year 1

August – December	**Introductory module (see outline p. 5)** **Clinical activities** **Postgraduate courses in:** Hygiene/infection control Team-work Documentation routines (records, photos etc.) Diagnostics and treatment planning
January - April	**Decentralized clinical activities** **alternating with 4 + 4 days pr month at TkNN** **Postgraduate courses based on internal/distance learning in:** Introduction to endodontics Introduction to periodontology Introduction to prosthodontics/masticatory function Diagnostics and treatment planning Radiology
1st week of May	**One week gathering at TkNN**
May – June	**Decentralized clinical activities** **alternating with 4 + 4 days pr month at TkNN** **Postgraduate courses based on internal/distance learning in:** Oral microbiology Biomaterials **Evaluation of year 1**

Year 2

August - December	**Decentralized clinical activities** **alternating with 4 + 4 days pr month at TkNN** **Postgraduate courses in:** Pharmacology Community dentistry Oral medicine Literature critics Case reports
1st week of October	**One week gathering at TkNN**
1st week of May	**One week gathering at TkNN**
January - June	**Decentralized clinical activities** **alternating with 4 + 4 days pr month at TkNN** **Postgraduate courses based on internal/distance learning in:** Anxiety management Ethics and professionalism, law Psychology/behavioural science/communication Internal medicine Gerodontology (case presentations) Caries prevention Esthetics Literature critics Case reports **Evaluation year 2**

Year 3

August – December	**Decentralized clinical activities** **alternating with 4+ 4 days pr month at TkNN** **Postgraduate courses based on internal/distance learning in:** Dento-alveolar surgery Neurology/orofacial pain Ear-nose-throat diseases Project work/specialist thesis
1st week of October	**One week gathering at TkNN**
January – April	**Decentralized clinical activities** **alternating with 4 + 4 days pr month at TkNN** **Postgraduate courses in:** Project work/specialist thesis Case presentations
May – June	**Final clinical work at TkNN** Clinical and theoretical exams **Final evaluation**

Evaluations/examninations

There will be a formal evaluation after each of the three years

1st year: Current evaluation and individual feed-back during the year
A four hour written exam based on the topics taught during the year
A case presentation

2nd year: Current evaluation and individual feed-back during the year
A four hour written exam based on the topics taught during the year
Case presentations

3rd year: Current evaluation and individual feed-back during the year
Presentation and defense of a research project
Case presentations

Sufficient number of treated cases in the various disciplines has not yet been established

Study plan

Introductory module

This introductory module contains an introduction to all topics included in the clinical specialty program. The purpose is to give the participants an overview of all the topics included in the program and to make the participants familiar with each other and the teachers/tutors. The introductory module is organized in Tromsø during the first Autumn. Patient treatment planning and clinical activities are also introduced during this semester.

Basic topics (100 h)
- Community dentistry
- Epidemiology
- Statistics
- Research methodology
- Literature critics
- Library/IKT
- Documentation techniques
- Tutor pedagogics
- Psychology/behavioural science/communication
- Ethics and professionalism

Paraclinical topics (125 h)
- Oral microbiology
- Biomaterials
- Oral pathology
- Oral medicine
- Farmacology
- Radiology
- Internal medicine
- Neurology/
- Orofacial pain
- Ear-nose-throat
- Hygiene/infection control

Clinical topics (100 h)
- Diagnostics/treatment planning
- Prosthetics
- Radiology
- Treatment planning
- Endodontics
- Masticatory function
- Periodontology
- Gerodontology
- Cariology
- Dento-alveolar surgery
- Esthetics
- Anxiety management
- Team-work

After the initial introductory course, basic topics, paraclinical and clinical topics will be presented more extensively during the 3-year duration, in part as intensive centrally organized courses, in part decentralized and communicated electronically. The topics will be blended with guided clinical and to some extent propedevtic activities in the different fields by tutors employed at IKO/TkNN. Diagnostics and treatment planning will primarily be organized electronically as case presentations. The overview of the curriculum design indicates the logistics. Each topic will be described and defined in detail according to the requirement for topic descriptions given in the 'Quality reform' – see the syllabus section at the end.

Specific aims

After graduation, the specialist in 'Clinical dentistry' should have obtained the following knowledge/skills/attitudes:

Basic science topics

Community dentistry

Be familiar with oral health conditions and services in Norway

Be familiar with Norwegian general and dental health legislation

Be competent at identifying and prioritizing treatment needs according to objective criteria and community-based information

Epidemiology

Be familiar with common epidemiological methods

Have knowledge of the difference between descriptive and analytical epidemiology

Be familiar with the difference between individual and population-based scientific information

Statistics

Be familiar with common statistical expressions and methods

Be competent at interpret statistical documentation in scientific papers

Research methodology

Be familiar with experimental, clinical and epidemiological research methods

Literature critics

Be competent at interpret scientific literature based on knowledge about research methodology and statistics

Library skills

Be familiar with scientific data bases

Be competent at retrieving scientific information from data-bases

Be familiar with the principles of writing a scientific article

Documentation techniques

Be competent at writing a research report according to accepted principles

Be competent to present a scientific or clinical report including case reports verbally or as a poster presentation

Pedagogics

Be familiar with basic concepts in tutor pedagogic

Be familiar with basic presentation principles

Psychology/behavioural science/communication skills

Be competent at communicating with patients from all backgrounds understanding the underlying social and socio-economical issues

Be competent to perform a patient-centered treatment approach

Ethics and professionalism

Be competent at maintaining full, accurate clinical records

Be familiar with patients rights and handle patient complaints accordingly

Be competent to provide appropriate care for vulnerable patients and maintain confidentiality

Be familiar with patient consent based on objective information

Be familiar with and inform about possibilities for financial support when relevant

Paraclinical topics

Oral microbiology

- Be familiar with the most common oral pathogens and microbial and viral infections
- Be familiar with the concept of biofilm and biofilm formation
- Be competent at administering antimicrobial and antiviral treatment

Oral pathology

- Have knowledge of the pathogenesis and classification of oral diseases
- Have knowledge of the aetiology and processes of oral diseases
- Have knowledge of the role of laboratory investigations in diagnosis
- Have knowledge of the causes and effects of oral diseases needed for their prevention, diagnosis and management

Biomaterials

- Be familiar with commonly used dental biomaterials
- Have knowledge of the science that underpins the use of dental biomaterials
- Have knowledge of the limitations of dental materials
- Be familiar with those aspects of biomaterial safety that relate to dentistry

Pharmacology

- Be familiar with the role of therapeutics in the management of patients requiring dental treatment including side-effects
- Be familiar with common therapeutics used in the dental clinic including side-effects

Internal medicine

- Be familiar with the pathological features and dental relevance of common disorders of the major organ systems
- Be familiar with the main medical disorders that may impinge on dental treatment
- Be familiar with the complex interactions between oral health, nutrition, general health, drugs and diseases that can have an impact on dental care and disease;

Neurology

- Have knowledge of cranial nerves and their distribution in the head and their connections with autonomic nervous system, headaches and facial pain.

Orofacial pain

- Be competent to perform diagnosis and treatment planning related to oro-facial pain
- Be familiar with epidemiology of orofacial pain, with different pain mechanisms, new strategies (eg multiprofessional) for treatment of orofacial pain conditions

Ear – nose – throat diseases

- Have knowledge about diseases, tumours and fractures in the ear-nose-throat region

Have knowledge about diseases and tumours of the salivary glands.

Be familiar with current treatment principles of these diseases.

Hygiene/infection control

Have knowledge of the scientific principles of sterilization, disinfection and antisepsis

Be competent at implementing these principles in the clinic

Clinical topics

Diagnosis and treatment planning

Be competent at retrieving information from patients with relevance to oral conditions

Have knowledge of the correlation between oral and general conditions

Be familiar with diagnostic uncertainty, sensitivity, specificity and diagnostic power

Be familiar with evidence-based treatment planning

Be familiar with the patients' circumstances and wishes in the treatment-planning process

Be competent as a consultant and tutor regarding diagnosis and treatment planning

Prosthetics

Be competent at performing proper prosthetic diagnosis and treatment planning in advanced prosthetic and oral rehabilitation cases

Be competent to perform advanced prosthetic treatment including implant-supported constructions using generally accepted techniques

Be familiar with referral to and establish collaboration with a prosthetic specialist if necessary

Radiology

Be familiar with the principles which underlie dental radiographic techniques, particularly digital imaging

Be competent to take the various film views used in general dental practice

Be competent at radiographic interpretation and be able to write an accurate radiographic report

Have knowledge of the hazards of ionising radiation and regulations relating to them, including radiation protection and dose reduction

Endodontics

Be competent to perform endodontic diagnosis and treatment planning properly considering future use of the tooth/teeth

Be competetnt to perform advanced endodontic treatment using rotary instrumentation and generally accepted techniques

Be familiar with endodontic apical surgery

Masticatory function

Be competent at implementing the principles of occlusion in all fields of dentistry

Be competent at diagnosis, treatment planning and treatment of TMD patients

Periodontology

- Be competent to perform periodontic diagnosis and treatment planning properly considering future use of the tooth/teeth
- Be competent to perform evidence-based treatment of advanced periodontal conditions including surgical procedures
- Be familiar with referral to and establish collaboration with relevant specialists if necessary
- Be familiar with the basic biological and technical aspects of osseointegrated implants
- Be familiar with evaluation of need for dental implants and proper post-operative controls

Gerodontology

- Be familiar with natural ageing processes
- Be familiar with the complexity related to interactions between different diseases and their treatment among the elderly
- Be familiar with oral conditions and diseases among the elderly
- Be competent to develop preventive and treatment strategies for the elderly (Group C) in collaboration with other health workers
- Be competent to treat oral diseases among the elderly with proper consideration to their general health status
- Be competent at communicating and collaborating with other health personnel involved
- Act as a consultant and tutor regarding gerodontological questions

Oral disease prevention

- Be competent at applying commonly used individual oral disease-preventive techniques including the utilization of fluorides, oral hygiene, food selection, tobacco and alcohol use.
- Be competent to plan and implementing preventive programs and activities on individual and population levels
- Act as a consultant and tutor regarding oral disease prevention

Dento-alveolar surgery

- Be competent to diagnose dento-alveolar and oral diseases
- Be competent to perform treatment planning and proper treatment of dento-alveolar conditions
- Be familiar with indications and contra-indications for surgical treatment
- Be competent to perform simple dento-alveolar surgery procedures

Esthetics

- Have knowledge of esthetic concepts related to teeth and facial appearance
- Be familiar with adhesive dentistry and ‘cosmetic’ restorations
- Be competent to act as a consultant and tutor regarding esthetic topics and treatment options

Anxiety management

- Be competent to manage fear and anxiety with behavioural techniques and

empathise with patients in stressful situations;

Be competent at when, how and where to refer a patient for general anaesthesia

Have knowledge of conscious sedation techniques in clinical practice.

Be competent to act as a consultant and tutor regarding anxiety management

Team-work/comprehensive oral care

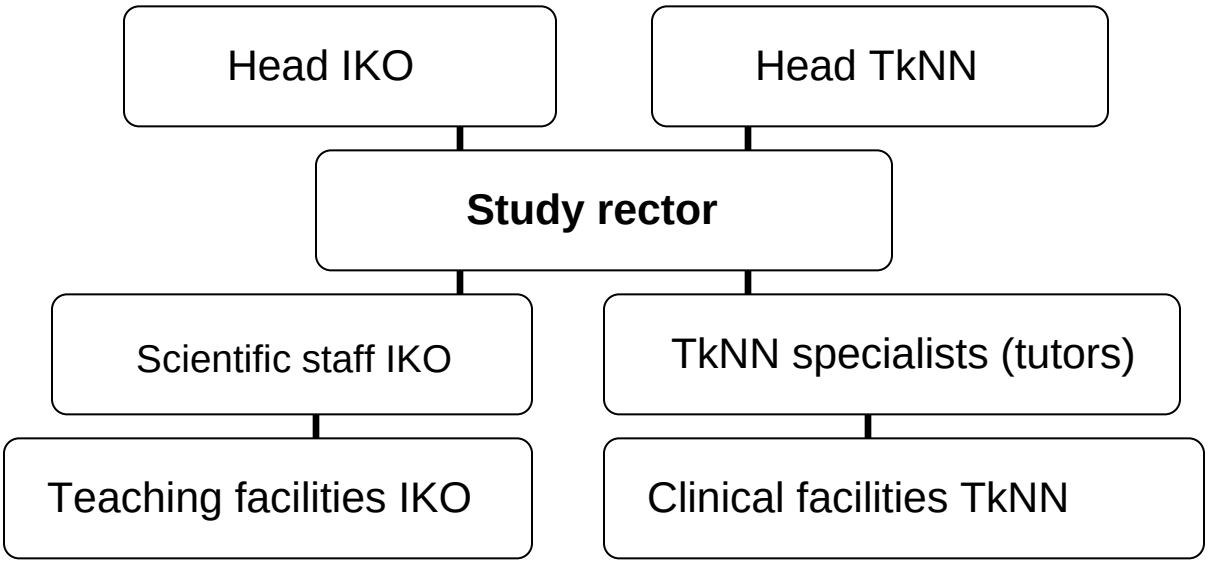
Be competent at working with other members of the dental team

Have knowledge of how to provide a comprehensive approach to oral care

Organization

The specialty in ‘Clinical dentistry’ is part of the Institute of Clinical Dentistry (IKO) portfolio. The program will be organized in close collaboration with the Public Dental Service Competence Center of Northern Norway (TkNN) being responsible for clinical training of the candidates.

Head of the program – a ‘Study rector’ or ‘Program director’ – with both administrative and clinical duties has to be employed and detailed working guidelines and description of responsibilities developed. This position requires qualifications comparable to an associate professor with a clinical specialty within one of the main topics included in the program. The following figure indicates the organization of the specialty:



The organization chart illustrates the shared responsibilities between ICO and TkNN. The main employer for the ‘Study rector’ will be ICO. In addition, a part-time (20%) position at TkNN will be included.

In principle, the program is fully financed externally (The Directorate of Health). A budget for the program including both calculated expenses at The Institute of Clinical Dentistry and at The Clinical Competence Center

Among members of the scientific staff, heads of the different clinical topics at ICO will be responsible for their topics including the theoretical education as part of their professional duties. However, due to the manpower situation at ICO, external lecturers have to cover a substantial part of the education (see budget). If they in addition have tutorial duties in the clinic, an extra salary will be included. ICO will collect an overhead fee for administrative duties, use of department equipment etc. Teaching facilities will be provided at ICO and TkNN. Electronic

communication equipment at external clinics has to be purchased and mounted if not available at already established external clinics in order to facilitate distance learning and tutoring.

Clinical tutoring will be provided by the team of specialists at TkNN. Hiring of specialists from outside the TkNN-staff as tutors may be necessary. This will require extra financing.

Clinical facilities and secretary assistance will be available at TkNN. Expenses for this support is included in the budget.

Topic description and syllabus

(A possible outline. Details will be added after acceptance of the program)

ORAL MICROBIOLOGY
Responsible:
Last revised:
Work load:
Topic description:
Learning goals:
Teaching methods:
Duration:
Clinical Requirements:
Evaluation:
Core literature:

Syllabus

Lectures (L), Seminars (S), Problem-based learning (PBL), Case presentations (CP), Clinic (C)
1.semester
2.semester
3.semester
4.semester
5.semester
6.semester