

National Training Requirements

FINLAND

Specialty

Clinical Pharmacology and Therapeutics

(Kliininen farmakologia ja lääkehoito)

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Note: This is not a legally binding document. Any current official regulations must be obtained from the responsible National Medical Association or other organisation in charge of the training of medical specialists.

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Description of training in Clinical Pharmacology in Finland (Risto Huupponen)

Regulations for specialist medical training

Specialist training in medicine is based on the Decree of the Ministry of Social Affairs and Health (Decree 56/2015) which regulates the specialist training in all medical disciplines. The Decree regulates the length and goals of the training at a general level, the practical performance is decided by the faculties. According to the Decree, the length of the training is 6 years (in some disciplines 5 years), and it must include also theoretical training as required by the faculties and a mandatory written nationwide examination at the end of the training.

Responsibilities for training requirements (local)

The medical faculties are responsible for the requirements. The training is supervised by a professor in Clinical Pharmacology and Therapeutics (or a person in an equivalent position). Although each faculty decides itself on the requirements, the responsible professors of all faculties negotiate with each other to harmonise the requirements.

At present, the requirements are very tightly bound to the duration of the service (as given in the Decree of the Ministry), and fulfilling of the specialty-specific requirements (activities the trainee has to perform during the specialisation) decided by the universities. Formally, each university makes its own decision on the specific requirements, but in practice persons responsible for specialist training (professors) in the different universities collaborate with each other in preparing the requirements. Therefore, only minimal differences exist between the faculties, and in all essential requirements are identical in all universities participating in the training.

Training facilities

The training is provided by the University of Helsinki, the University of Turku and the University of Tampere together with the corresponding university hospitals. A new professor of Clinical Pharmacology was nominated recently (March 2019) in the University of Oulu, and the training is anticipated to begin there also in the future.

Structure of training

Total duration: 6 years after undergraduate studies. The training contains nine months service in a primary health care centre (mandatory for all specialities in Finland), and at least 3–3.5 years of service in a clinical pharmacology unit. The rest of the service may be done in some pharmacotherapy-intensive specialty, such as internal medicine, psychiatry, paediatrics etc., or in a clinical pharmacology unit. One year of the service in a pharmacotherapy-intensive specialty may be replaced by a research position adequate for the training.

It is planned that in the future the tight binding with the duration of training will be replaced with a more flexible approach. More weight will be put on learning outcomes and adoption of predefined skills.

General description of training contents

The goals: the specialist should have good knowledge on the efficacy and safety of pharmaceutical products, understand the contribution of pharmacotherapy in the clinical practice, and be able to apply the principles of evidence based medicine. He/she must be able to work as an expert both in patient care (pharmacotherapy consultations) and to evaluate the therapeutic value of drugs. He/she must be familiar with principles of clinical drug trials, and preferably have own experience on them. In detail, the following skills should be adopted during the training:

- basic pharmacokinetic- and dynamic characteristics of drugs commonly used in clinical practice
- calculation of basic pharmacokinetic constants and their application in pharmacotherapy
- knowledge on the effects of age, gender, genetics, pregnancy, lactation and kidney or liver failure in pharmacotherapy
- knowledge on signs of and treatment options in common drug poisonings
- knowledge on the mechanisms of drug interactions and how to apply this knowledge in the diagnosis and prevention of drug interactions
- knowledge on analytical methods used for measurement of drugs or narcotics in biological fluids
- ability to analyse the contribution of drugs or pharmacotherapy in treatment failures or adverse effects in a patient
- basic knowledge on drug-HTA (health technology assessment)
- basic legislation concerning clinical drug trials
- ability to compose a protocol for a clinical drug trial and to write a report/scientific article after the trial
- have an overview on organising a clinical trial
- acquire skills needed from a principal investigator in a clinical trial
- ability to work in a clinical trial review board
- know the principles (possibilities and pitfalls) of pharmacoepidemiology, pharmacoecconomy and the Finnish drug reimbursement system
- understand the procedures applied by the authorities when evaluating marketing authorisations

In addition, she/he must obtain theoretical education on relevant for the specialty or the Finnish health care system in general. Typically, this may include 60 hours specialty-oriented topics and 20 hours more general topics. These requirements are identical for all specialities, not only for clinical pharmacology and therapeutics.

A personalised training program should be prepared for each person in specialty training, and a supervisor should be nominated for each trainee. The trainee is supposed to keep a log book on her/his activities in training.

All trainees must visit a course on (multiprofessional) managerial skills (identical for all specialities). The volume of the course may vary between the universities.

Exam

There is a written examination including questions on general clinical pharmacology, clinical drug studies, clinical toxicology and therapeutic use of drugs.

In the future the specialities may decide themselves whether they want to have a final exam after the training or base the judgement on other facts.

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Application

Application deadlines and selection

Applications for specialist medical training and special dentistry training will be implemented as nationwide simultaneous application in the electronic application system Opintopolku¹. There are 1 or 2 application times per year, spring and autumn. The Ministry will publish the Specialist and Special Dentist Care Needs Report v. 2035, in March 2018, on which the number of places will be based. The number of applications to be arranged is directly related to these input rates. The length of the application period is 3–4 weeks.

Eligibility

Eligibility refers to the conditions set by law and universities for the kind of prior knowledge and skills that applicants need to be able to apply for a course of study in a particular training. According to Section 4a of the Health Care Professional Act 1994/559, “*The University referred to in the University Act may carry out specialist training for the right to practice a medical profession in Finland as a licensed practitioner, and specialised dentistry training for a person to have the right to practice the profession of dentist in Finland as a licensed practitioner and who has worked for at least two years in dental clinics.*” According to the university eligibility criteria, the applicant must have sufficient language skills to complete the training. In addition, as specialisation requires work in health care, the applicant must also be authorised to work in Finland in order to complete the training.

Thus, according to the law and the eligibility requirements for universities, an eligible applicant must have:

- A Finnish Licentiate of Medicine or an equivalent medical degree abroad
- Valvira's² legalisation to practice as a doctor in Finland (not restricted or limited)
- Sufficient knowledge of Finnish for specialisation
- Permission to work in Finland

Applicants for specialist dentistry training must have:

- Licentiate Degree in Dentistry in Finland or an equivalent dental degree
- Valvira's legalisation to practice as a dentist in Finland (not restricted or limited)
- Sufficient knowledge of Finnish for specialization
- Permission to work in Finland
- At least two years of professional experience in clinical dentistry after legalization

In developing the selection procedure, the language proficiency requirement has been determined for the purpose of obtaining the right to study. It is not possible in any Finnish university to complete all courses in specialist medicine or specialised dentistry training (management training, theoretical course training) in Swedish, so Finnish language skills are essential for the studies. The employer is responsible for the language skills requirements of the specialisation-related employment relationships. The Language Proficiency Act 1994/559 provides for language proficiency as follows (Section 18a):

“The healthcare professional must have the appropriate language skills for the tasks he/she carries out.

¹ opintopolku.fi, studyinfo.fi

² Valvira: National Supervisory Authority for Welfare and Health (*Sosiaali- ja terveystieteiden lupa- ja valvontavirasto*)

The health care professional's employer should make sure that the language proficiency of the healthcare professional is sufficient to fulfil his/her duties."

In line with the general selection criteria recommendation for lower and upper secondary education in 2019, Finnish language proficiency can be demonstrated primarily by the completion of basic education, secondary education or a university degree in Finnish. Alternatively, the applicant can demonstrate a proficiency in the General Language Examination of the National Board of Education (YKI³), which has been completed at level 4 in all subtests of the exam (comprehension, writing, speech comprehension and speaking) or in a state language test that has been performed with a grade of good skills in all areas (speaking, writing and understanding the text). The language examination or the language test must not be more than 2 years old when participating in the selection procedure.

[Search items, prioritisation, and priority points](#)

Applications for both specialist and specialist dental training are limited to three. When applying for more than one area, the applicant must prioritize them.

If a student wishes to change his/her specialisation area or field after having already been selected, he/she has to do it by re-searching. The exchange is possible if he or she is elected and waives his/her previous right to study. Students may have only one study right and only one university at a time.

Selection procedure

In specialist medical and specialised dentistry training, the selection is based on initial scoring, interview and a trial period.

[Initial position in specialist training](#)

The **priority of the subject**, included in the initial assessment, **previous work experience** and **scientific experience** included in the specialist medical training will be evaluated according to the scales below.

In accordance with the general regulations, work experience means post-licenciate at approved training places, with a sufficiently high working time percentage. The applicant can participate in the selection process even if he/she does not have any work experience.

Work experience in specialist training: up to 10 p.	
I. Health center service (mandatory 9 months): up to 2 p.	
Less than 9 months	0 p.
9 months and more	2 p.
II. Service in the field for which one applied*: up to 6 p.	
1 p/month, up to 6 months	0–6 p.
III. Service in another specialty**: up to 2 p.	
Less than 3 months	0 p.
3 months to less than 6 months	1 p.
6 months and more (one or two specialties, one field at least 3 months)	2 p.
*Medical centre service in general medicine for more than 9 months.	

³ YKI: *Yleinen Kielitutkinto* (National Certificate of Language Proficiency)

**Also service in a university teaching position in a medical field. Teaching can be accepted for a maximum of 3 months.
A variety of surgical or internal medical services can be accepted for “A service in a specialty for which one applied.”

Table 1: Work experience scoring in specialist training applications.

In addition to work experience, scientific experience in both specialist medical and specialist dental training is given points in the first stage of the selection as shown in the table below.

Score of scientific experience in specialist medical and dental training: up to 8 p.	
Doctorate* in the field of medicine or dentistry	8 p.
At least 3 scientific JUFO ⁴ publications in medicine or dentistry (levels 1–3)	6 p.
Degree in a field other than medicine or dentistry	4 p.
1–2 scientific JUFO publications for medicine or dentistry (levels 1–3)	2 p.
Applicant has been admitted (right to study) to be a doctoral student in medicine or dentistry at a Finnish university	1 p.
*Finnish, or at least equivalent to a Finnish doctoral degree	

Table 2: Scoring of scientific experience in medical and specialized dental training applications.

Initial scoring/Medical specialists	Maximum
Work experience	10 p.
Scientific experience	8 p.
Priority	2 p.
In total	20 p.

Table 3: Categories and maximum scores for the initial assessment of specialist medical training in the selection procedure.

[Initial entry in special dentistry training](#)

The procedure for selecting specialist dental training follows the same lines as specialist training. The only difference in the selection process is that in specialist dental training, not only work experience and scientific experience, but also participation in continuing education is scored.

Those who wish to specialize in dentistry must have at least two years of experience in clinical dentistry after licensing.

Work experience in specialist training: up to 10 p.	
I. General work experience as a dentist (not weighted in the field of interest or related field or otherwise unspecified): up to 2 p.	
Less than 2 years	0 p.
2 years to less than 5 years	1 p.
5 years or more	2 p.
II. Service in the field/of dentistry, for which one applied*: up to 6 p.	
1 p/month, up to 6 months	0–6 p.
III. Service in another special field/focus of dentistry**: up to 2 p.	
Less than 3 months	0 p.
3 months to less than 6 months	1 p.
6 months and more	2 p.
*Work in teaching assignments in the field of dentistry is also approved. Up to 3 months can be accepted for teaching.	

⁴ JUFO: *Julkaisufoorumi* (Publication Forum, Finnish classification system for scientific publication channels implemented by the Scientific Society Delegation, *Tieteellisten seurain valtuuskunta*, TSV).

Table 4: Work experience scoring in specialist dentistry training applications.

The table below describes the scoring of training experience in specialist dentistry training. For initial scoring, special dentistry training also includes the scoring of scientific experience, according to the same table as specialist training (Table 2).

Scoring of training experience in specialist dental training (review period is the last 3 years of work, and if less than three years after licensing, the time between licensing and the date of application): up to 10 p.	
On average \geq 60 hours of continuing education / year	10 p.
On average \geq 50 hours of continuing education / year	8 p.
On average \geq 40 hours of continuing education / year	6 p.
On average \geq 30 hours of continuing education / year	4 p.
On average \geq 20 hours of continuing education / year	2 p.
An hour is a 45-minute training time. Appropriate training providers are: Apollonia ⁵ , Association of Centres of Dental Medicine, Swedish Odontological Society in Finland, Finnish or International Specialist Organisation, Finnish or Foreign University or any other nationally recognised organisation.	

Table 5: Scoring of educational experience in specialist dentistry training applications.

If there is any ambiguity about the training provider, the specialty will decide on its acceptance based on the content of the training.

The table below shows the sections of the initial dentistry training and the maximum number of points. The total number of points is deliberately different from that of medical specialists.

Initial scoring/Dental specialists	Maximum
Work experience	10 p.
Scientific experience	8 p.
Training experience	10 p.
Priority	2 p.
In total	30 p.

Table 6: Categories and maximum scores for the initial assessment of specialist dental training in the selection procedure.

[Motivation letter](#)

The applicant must write a letter of motivation for each search item of choice, i.e. a maximum of three letters. The motivation letter answers the following questions:

1. Why are you looking to specialize in that specialty at that university?
2. How does your previous educational background and work experience support successful training in that specialty?
3. How would your other qualities and skills support your training in this area?
4. How do specialty studies support your professional goals?

The maximum length of a letter is 6,000 characters with spaces. The motivation letter is not scored, but its submission according to the requirements set out in the application form is a mandatory requirement for the application to be processed. The motivation letter acts as background information for interviews.

⁵ The Finnish Dental Society Apollonia

Interview

Candidates are invited to a structured interview based on the initial cores. The number of people invited to the interview is not more than twice the number of training places. Interviewers score parts of the interview according to the national assessment scale in the interview situation. Interviews are conducted in individual interviews lasting about 30 minutes/interviewee.

The interview questions cover four different topics: experience in the field and motivation to get acquainted with the field, teamwork and interaction skills, specialty issues, and specific skills and pressure tolerance. The questions will be agreed by the specialty nationwide so that the comparability of the applicants within the specialty is guaranteed. The maximum points for the entire interview are ten, just like work and scientific experience. It is possible to get up to three points in each of the sections of motivation, team and interaction skills, up to two for each specialty and special skills sections. Points must be awarded for each theme, otherwise the applicant cannot be taken as a student.

Responses are assessed according to a four-step scale: excellent, good, satisfactory, weak. The scale levels correspond to the points as follows: excellent: 1 p., good: 0.75 p., satisfactory: 0.5 p., weak: 0.25 p. A more detailed description of the structure and assessment of the interview is given in Annex 1.

The interview will take place so that the applicant shall be interviewed from the top of his/scoring items, starting with his or her best scoring points. Thus, even if the applicant had applied for three, it would be possible for him or her to have only one or none of them.

After the interview, the initial scores and interview points of the applicants are added together. The options shortlist is made on the basis of the total points. If, after the interview, two or more applicants have exactly the same number of points, the scoring of question 1 of the interview will be used as a straightforward rule, which will determine the order of the candidates.

Trial period

After the interview stage, you will be selected for a conditional trial period, which must be started within one year of the selection decision and the approved completion of which is a prerequisite for the granting of the actual study right. Other applicants will be informed through the study path that, unfortunately, they have not been successful this time. At this point, the 14-day time limit for the rectification request begins.

The conditional right to study is exercised as a temporary separate sectoral study right. For a justified special reason (e.g. maternity, paternity, parental leave, military service), a specialist may be granted an extension to a separate study right if the trial period has been started within 1 year of the decision. If the test period has not been started within 1 year of the selection decision, no extension to a separate study right can be obtained. The test period may be carried out at any of the places listed by the universities in the relevant field. In practice, they are very much in line with the university training tables.

Three persons are always involved in the assessment of the trial period: the trainer, the person in charge of the field or a person authorized by him/her, as well as another health care professional from the place where the trial period is performed. Each participant in the assessment will complete their own evaluation form and the responsible person will make a final decision on whether the performance is acceptable. The proposal for the evaluation form is attached as Annex 2.

The diagram below shows the application and selection as well as the placement of the probation period.

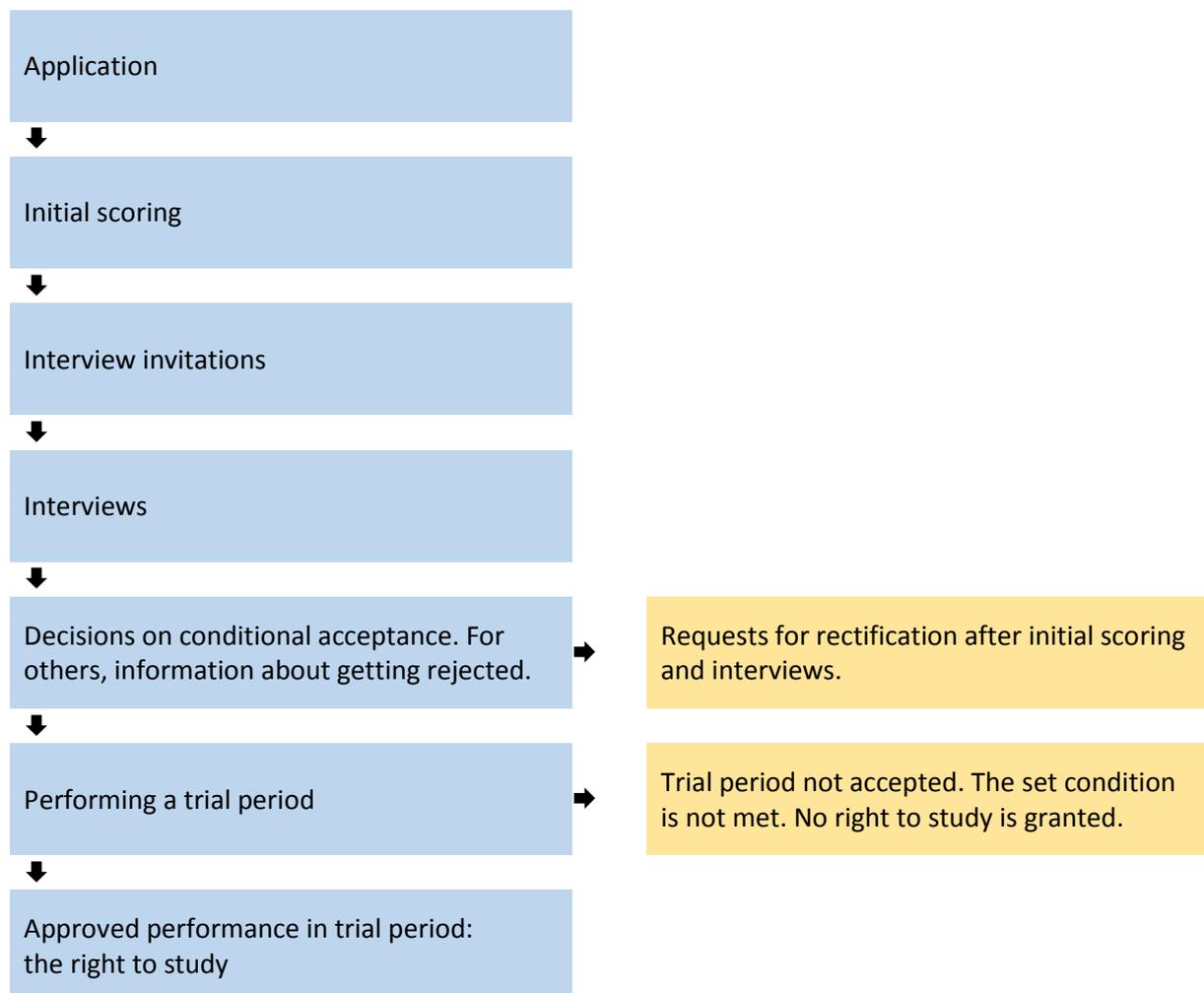


Figure 2⁶: Summary of application, selection and trial period evaluation.

[Granting of the study right](#)

The successful candidate is offered the right to study. Once the applicant has accepted the study place, he or she will receive a training plan. At the same time, the specialist medical training defines which of his/her pre-application services can be accepted as part of the training through the AHOT procedure. In specialist dental training, the two-year service included in the application requirements cannot be AHOT. At a later stage, the training plans would change so-called educational plans.

⁶ Note: In the original Finnish document there is no 'Figure 1'.

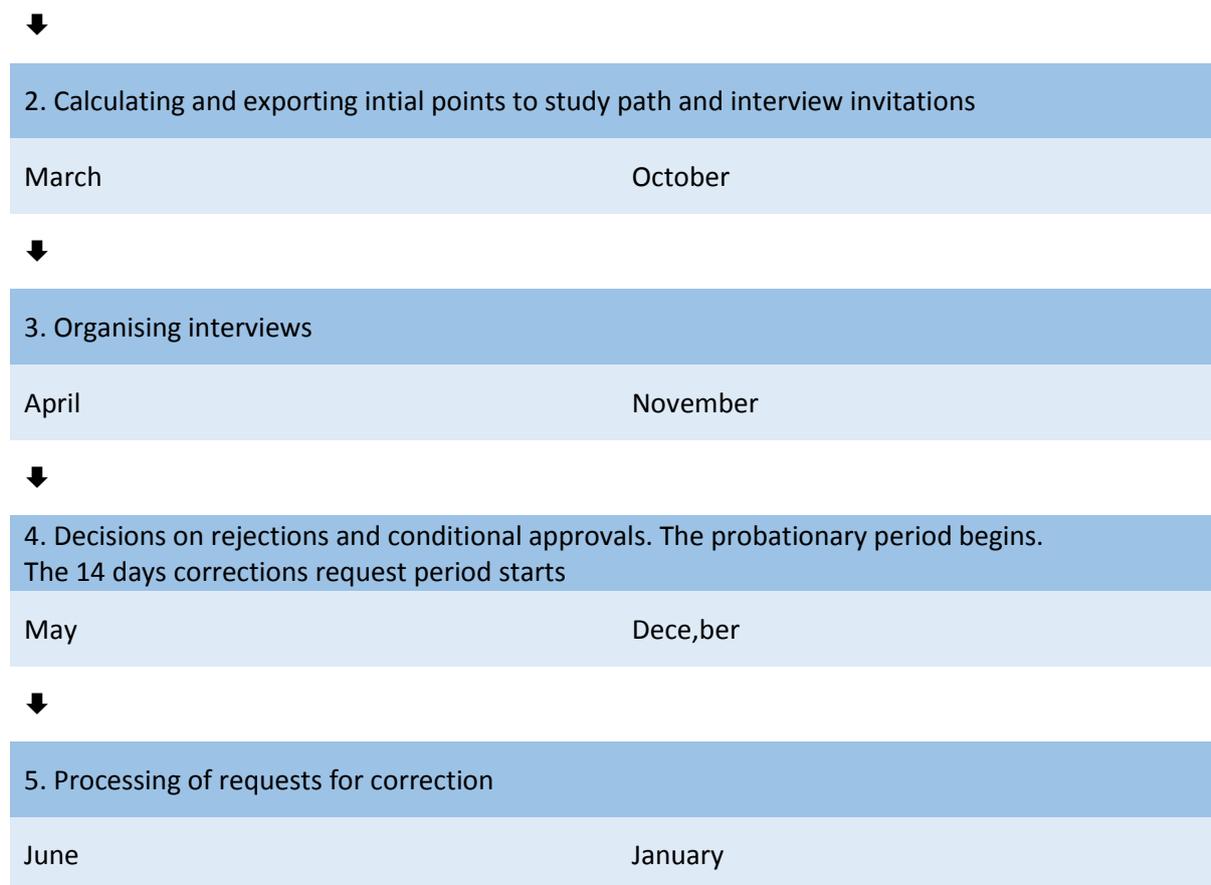


Figure 4: The selection process within a year.

Applicants' legal protection and fairness of selection

In the future selection procedure, it is possible for the applicant to apply for a correction. Pursuant to Article 82 of the Universities Act 558/2009, "A person who has applied for being a student may demand a correction from a student institution appointed by the university within 14 days of the publication of the results of the selection as provided for in the Administrative Law. When publishing the results of the student selection, it must be indicated how the applicant can be informed about the application of the selection criteria."

The result of the student selection must not be changed to the disadvantage of the person selected to study because of the appeal."

The envisaged procedure of selection as a student in specialist medical and specialist dental training is a decision that will be made when determining which candidates will be admitted conditionally after the interview. It is not possible to apply for a correction during the selection process. Neither can a complaint be made because it is the responsibility of the person. Participation in the selection cannot be prevented even if the applicant had progressed to the trial period in a previous application and was then found to be unsuitable for the profession.

Study right

As of January 1, 2019, the right to study will be limited as follows: 10 years of specialist medical training and oral and jaw surgery and 6 years of special dental training. For a valid reason, the student may apply for extra time before the end of his/her training in accordance with the

university's so-called normal additional application procedure. Reasonable reasons would be, for example, own or a close relative's serious illness, maternity leave, etc.

The transition to the new electronic file procedure will take place from the beginning of 2019. At the same time this means that the granting of study rights based on the admission procedure will expire on 31 December 2018. The new selection procedure will be piloted in the spring 2019 application round and may be attended by specialised disciplines. Other specialties will be included in the autumn 2019 application round. General practice and occupational health will provide general frameworks for the requested selection proposal by October 7, 2018 for review and approval by the VAJT⁷ on 12 November 2018 and thereafter for further processing by the medical faculties during 2018.

⁷ VAJT: *Valtakunnallinen alueellisten neuvottelukuntien verkosto* (national network of Regional Advisory Councils).

Appendix 1: Interview structure and evaluation scale

Below is a description of the division of the interview into four areas and the questions for the areas. Up to ten points can be obtained from the interview, and four points are the minimum requirement for the applicant to continue with the trial period. For each sector, specific issues must be decided by application rounds. The grading scale is four-step.

TOPIC: EXPERIENCE IN THE FIELD AND MOTIVATION MAX. 3 P.

1. Tell me why you want to train in xx at this university?
2. How familiar are you with the field? (e.g. through work, reading, research or training)
3. What strengths and weaknesses do you have in working in the field?

TOPIC: TEAM WORK AND INTERPERSONAL SKILLS MAX. 3 P.

4. How do you see multi-professional co-operation in your xx field?
5. Describe your strengths and weaknesses as a member of a multi-professional team?
6. How do you work in a situation where the patient and his/her relatives do not seem to understand the diagnosis you have made?

TOPIC: SPECIAL SECTOR QUESTIONS MAX. 2 P.

7. Subspecific question (this can test more detailed knowledge of the specialty)
8. Subspecific question about treatment chains (outlines the placement and connections of the specialty in Finnish healthcare)

TOPIC: SPECIAL SKILLS AND RESILIENCE MAX. 2 P.

9. Do you have any other features, interests or past experience that you think would be useful when you specialize in xx?
10. How does stress affect you and how do you deal with stress?

Interview Assessment Scale

Estimate	Verbal description: characteristics of each level of response	Score
excellent	Responding comprehensively to the question asked, explaining clearly, bringing out a broad view of things and their connections. Demonstrates maturity and judgment when responding.	1 p.
good	Answers the question, justifies and brings out the relevant issues.	0.75 p.
satisfying	Responding little to the question, could bring things up more widely. The answer would be to ask a supplementary question.	0.50 p.
weak	Does not answer the question. Brings out issues that are irrelevant to the question.	0.25 p.

Appendix 2: Trial period evaluation form

Trial period, specialty:

Duration of trial period (start and end date):

Venue:

Appraiser (each appraiser completes its own form):

Section	Grading scale	Score (1–5)
I. Experience in the field and motivation to become familiar with the field	1/weak: No motivation to work in the field 2/inadequate: Motivation varies from one situation to another 3/satisfactory: Motivation can be found, but it could be more interesting and self-motivating 4/good: Demonstrates motivation and wants to actively develop in the field 5/excellent: Is clearly motivated, interested in industry and diverse, goal-oriented professional development	
II. Teamwork (multiprofessional cooperation)	1/weak: Working with others is a constant problem, not being able to take responsibility or guide others 2/inadequate: Working with others occasionally shows problems 3/satisfactory: Working with others goes well but could be better 4/good: Working with others goes well, respects others' skills and also provides help when needed 5/excellent: Working with others is seamless, is enthusiastic about others' skills and guides others well	
III. Skills required in a specific field	1/weak: Specialty basic work does not work either 2/inadequate: Basic work in the specialised field is difficult, progress is slow 3/satisfactory: Basic work in a specialised field, showing progress 4/good: Basic work in a specialised field at a good level, learning more and more 5/excellent: Already mastered the specialty's more demanding work, interested in learning more, and developing their skills by studying and practicing independently	
IV. Interaction skills (written and oral communication with patients, relatives and colleagues)	1/weak: Interaction skills are inadequate. Written and oral communication with different parties is constantly weak and incomplete. ALSO: The language skills required of a specialist doctor are inadequate. 2/inadequate: Problems in written and oral communication that lead to misunderstandings. ALSO: The language skills required of a specialist doctor are weak. 3/satisfactory: Communicate with patients, relatives and colleagues at a basic level. 4/good: Communicates with patients, relatives and colleagues in a comprehensible and effective way, showing an understanding of the situation. 5/excellent: Communicates smoothly and effectively with patients, relatives and colleagues, excellent situational awareness.	
V. Special skills and resilience	1/weak: No specific skills or features related to the field. Even coping with stressful situations. 2/inadequate: No special expertise in the field. Making decisions is difficult in stressful situations. 3/satisfactory: Tendency to the specialty, survives in stressful situations moderately.	

	4/good: Utilises own clear strengths in the field, can make decisions under pressure. 5/excellent: Clear tendency and versatile expertise in the field. Handles stressful situations professionally.	
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If the evaluation of the trial period is estimated at 1 or in at least two sub-areas at 2, the candidate cannot be accepted as a student.

The trial period is accepted rejected

Reasons for rejection

More information

The evaluation has been discussed with the examiner YES

Date

Signature and name

