Received: 6 November 2019 | Revised: 16 January 2020 | Accepted: 18 January 2020

DOI: 10.1111/eje.12501

CONSENSUS STATEMENT

WILEY

A common European curriculum for dental hygiene

1 | INTRODUCTION

The European Dental Hygienists Federation (EDHF) is a not-for-profit organisation that, to date, represents 24 national Dental Hygiene Associations across the European Union, European Economic Area and the World Health Organisation (WHO) European Region (Table 1). Founded in 1999, the EDHF now represents associations with an estimated membership of 38 000 dental hygienists,[1] and the aims of EDHF have thus developed to include:

- Improving access to high quality preventive oral health care.
- Providing a platform from which to exchange information and promote dialogue between member associations.
- Supporting professional development and continued professional education of dental hygienists.
- Collaborating with oral health and wider health organisations for the benefit of the profession and for the health of patients.

The EDHF meets annually at its pan-European conference, and various internal taskforces exist longitudinally relating to enhancing oral health literacy, and harmonising the skills and training of dental hygienists across Europe. The latter, in relation to the training of dental hygienists, forms the basis for this series of curriculum papers. This introductory paper aims to describe the current situation with respect to the training of dental hygienists across Europe, and to outline the process by which EDHF has established a new Common European Curriculum (CEC). It is expected that dental hygiene educators will use the CEC as a starting template when authoring or updating curricula, taking into account their own local levels of regulatory practice.

2 | WHAT IS DENTAL HYGIENE AND HOW IS IT REGULATED?

It is recognised that there is considerable variation regarding what constitutes the practise of dental hygiene across EDHF member states.[2] This is compounded by the fact that the International Standard Classification of Occupations (ISCO) does not classify dental hygienists as a unique group. Instead, they are included within sub-group "3251–Dental assistants and therapists". As such, it is difficult to determine from a regulatory perspective, exactly *what* constitutes the role of a dental hygienist. The regulation lists activities that include "preparing cavities", "placing fillings" and "fitting dental prostheses",[3] which many member states would consider outside the standard expected scope of practice. *Core* activities for dental hygienists across member states are largely confined to:

1. educational and promotional activities relating to preventive oral health.
2. examination, diagnosis and provision of preventive dental care.

Table 2 outlines some of the *other* procedures that dental hygienists are permitted to undertake in some countries, according to the "Mutual evaluation of regulated professions" project.[2] On occasion, these extra regulated activities are only permitted on condition that the hygienist can demonstrate suitable training, competence and indemnity.

2.1 | Regulation

Aside from the disparate nature of permitted activities, the regulation and autonomy of dental hygiene are also extremely variable. According to the European Commission, 8 member states reported that they do not regulate access, or set mandatory qualification requirements.[2] Ten member states reported specifying that hygienists may carry out activities under *direct supervision or prescriptions* of dentists. In all Nordic countries, Switzerland and the UK, hygienists may carry out certain treatments and activities either directly (independently) or under the prescription of a dentist. It is worth noting that not all European countries were represented as part of the "Mutual evaluation of regulated professions" exercise.

2.2 | Qualification

In terms of qualification requirements, the majority of member states (12) require completion of programmes at post-secondary level and are of between 2 and 4 years' duration (normally a minimum of 180

TABLE 1 National dental hygiene associations represented by EDHF

Austria
Belgium
Czechia
Denmark
Estonia
Finland
Germany
Ireland
Israel
Italy
Latvia
Lithuania
Malta
Netherlands
Norway
Poland
Portugal
Russia
Slovakia
Slovenia
Spain
Sweden
Switzerland
United Kingdom

European Credit Transfer and Accumulation credits). On occasions, these must then be followed by mandatory vocational placements, portfolios of experience and state-run examinations.[2]

2.3 | Working environments

The majority of dental hygienists work as part of a team, within a general dental practice environment.[2] However, there are also significant numbers of hygienists who work independently, or in smaller, more specialist clinical teams—both within private and public settings. These may include:

1. Working independently (possible in 16 member states).
2. Oral Healthcare Teams.
3. Specialist Periodontology clinics.
4. Specialist Oncology or other multidisciplinary teams in hospitals or secondary care environments.
5. Residential care or homes for the elderly or medically compromised.
6. Other public health services.

The disparate nature of practice environments means that the dental hygienist has an important and necessary role in inter-professional collaboration. At present, this element of training is likely under-represented. It was the aim of the Common Educational Framework (CEF) taskforce to ensure that this aspect formed a critical part of the new curriculum documentation.

2.4 | Statement of the problem

As outlined thus far, the definition, practise, regulation and training of dental hygienists is inconsistent across Europe. The European Commission data from 2016 is considered somewhat incomplete, and as a result, the EDHF commissioned pan-European surveys in 2014 and 2016 in order to better understand the practise of Dental Hygiene across Europe. This work resulted in the publication of a "Professional Profile" for Dental Hygienists across Europe.[4] Whilst it is not within the scope of this series of papers to engage with the *regulation* of dental hygiene, it is a concern that there is, as a result of the discrepant regulation, poor harmonisation of training. This is most apparent and problematic where Dental Hygiene training is provided vocationally; in this instance, the higher vocational curriculum is aligned to the regulatory scope of practice.

As described in the "Graduating European Dentist" documents (GED),[5] Health 2020, (the European policy for health and well-being, adopted by EU member states in 2012), aims to support action across governments and society to "significantly improve the health and well-being of populations, reduce health inequalities, strengthen public health and ensure people-centred health systems that are universal, equitable, sustainable and of high quality".[6] The policy stresses the need to rethink the education and training of health professionals in order to improve the alignment between education and health systems priorities. A framework for action on inter-professional education has also been published,[7] in order that educators can better prepare graduating students as they enter the workplace as a member of the collaborative practice team. Taking the above needs into account, "A Common European Curriculum for Dental Hygiene" describes a contemporaneous curriculum for use by dental educators and other stakeholders. It aims to provide a basis from which institutions *and* regulators can plan, benchmark and quality assure the training that they are providing for dental hygienists.

2.5 | Process

EDHF established a Common Education Framework (CEF) project team, CEF taskforce and two reference groups, in 2017. The project team comprised the President and Vice President of EDHF (Yvonne Nyblom and Ellen Bol-van den Hil, respectively) and a project manager, Corrie Jongbloed. Members of the other involved groups are represented in Tables 2 and 3. An overview of the CEF project and the relationship between the working groups is outlined in Figure 1. The project team was responsible for delivery of the project and for overseeing the activities of the CEF taskforce. The CEF taskforce comprised representative members from across Europe, and two

TABLE 2 Additional dental hygiene procedures that vary from country to country[2]

Procedure	Number of countries permitting the activity
Placement of topical treatment and fissure sealants	10
Administering local anaesthesia	9
Working with ionising radiation and taking photographs	8
Adjusting existing restorations	7
Care of implants and peri-implant tissues	5
Tooth whitening upon prescription	5
Administration of medicinal products	4
Removal of sutures after the wound has been checked by a dentist	4
Placement and removal of dental dam	3
Taking impressions	3
Prescribing radiographs	3
Use of antimicrobial therapy to manage plaque related diseases	3
Application and removal of orthodontic appliances	2
Emergency refitting of crowns	2
Treatment of caries in primary teeth	2
Treatment of periodontal disease prescribed by a dentist/ root planing	2
Placement and removal of retraction threads	1
Desensitising agent application to dentine	1
Placement of temporary dressings and re-cementing crowns with temporary cement	1
Oral cancer screening	1
Prescriptions (restricted)	1
Inhalational sedation	1
Subcutaneous and intramuscular injections	1

ADEE representatives. Working curriculum documents were then sent to two reference groups, who included further subject matter experts based at institutions and organisations across Europe.

Between May and July 2018, ADEE mediated an open pan-European consultation on the curriculum documents. The following parties were invited to participate in the consultation:

- EDHF-CEF Reference Groups.
- EDHF Member Associations.
- Institutions.
- Regulatory bodies.
- Professional organisations.
- Corporate Partners.
- Individuals.

Over 300 distinct comments and/or suggestions were received, including comprehensive responses from a number of ADEE member-institutions and interested individuals. Concurrently, the documents were considered within workshops at both the European Federation of Periodontology annual conference (June 2018) and the ADEE annual conference (August 2018). Consultation outcomes, comments and suggestions were reviewed by the taskforce, and changes were made where it was felt necessary. A final Common European Curriculum for Dental Hygiene was unanimously adopted by the EDHF General Assembly on 4 October 2018 (Jerusalem).

2.6 | Educational strategy

In keeping with the approach adopted by the ADEE "Graduating European Dentist" taskforce, a learning-outcomes approach was used when formulating the dental hygiene curriculum. For the purposes of consistency and clarity, the terms "Competences" and" Learning Outcomes" are described below:

2.6.1 | Competences

> *Professional behaviours and skills required by a graduating dental care professional in order to respond to the full range of circumstances encountered in general professional practice*[8]

2.6.2 | Learning outcomes

> *A series of individual and objective outcomes, with shared ownership between students and staff, designed to facilitate the learning and assessment process.*[5]

It is understood that institutions and regulators may wish to see a more competence-based definition of a dental hygienist—however, the taskforce is clear that a learning-outcomes based approach is a sound basis through which to establish a curriculum—and this can then be adopted and modified alongside other stakeholders, as required. The role of ADEEs representatives on the taskforce was to assist the learning outcome-based approach and to provide pedagogic support in constructing a new curriculum.

The curriculum has been written in such a way that the Domains and their defined "Major Competences" provide a basis from which qualifying dental hygienists can build confidence and competence, and accept the importance of continuing professional development throughout their career. EDHF would like to stress that this is very much an aspirational curriculum, and *not* a regulatory document. It is to assist educators with putting together a comprehensive curriculum that can be suitably taught and assessed. EDHF is happy to see the curriculum framework

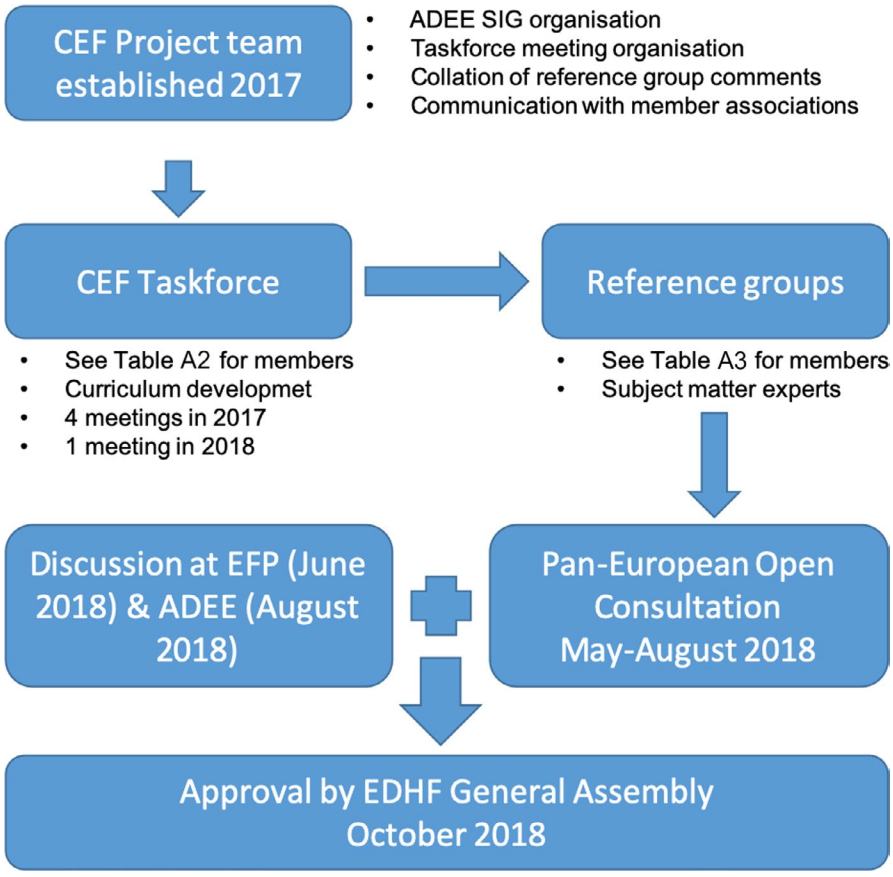

FIGURE 1 The CEF process, from its inception in 2017 through to approval [Colour figure can be viewed at wileyonlinelibrary.com]

altered and augmented to suit individual institutional needs and requirements.

The Framework in Appendix A, mirrors the GED documentation,[5] and comprises four Domains covering topics referred to as "Major Competences". These are accompanied by a series of associated "Learning Outcomes".

2.7 | Quality assuring the delivery of dental hygiene education

Education and training must not take place in environments where fundamental standards of quality and safety are not adhered to.[9] Quality assurance processes are therefore fundamentally important to the delivery of effective education and patient-centred care. As such, we refer the reader to the quality assurance aspects discussed within the GED documentation.[5] These include:

- Staff appraisal, training and development.
- Policies and procedures.
- Disciplinary processes including fitness to practice and fitness to study.
- Examiner feedback, calibration and training.
- Feedback (from staff, students and patients).
- A supportive infrastructure.

2.8 | Programme length, level and ECTS

Whilst the curriculum provides no guidance on programme length or hours of study, the taskforce felt that Bachelor-level programmes (representing EQF level 6 or above) should have a length equivalence of 3 years (4500 hours) or a minimum of 180 ECTS credits (at 25 hours per credit). Ultimately, the way in which the curriculum is structured and implemented is for individual institutions (in conjunction with their regulators within the European Higher Education Area) to decide.

2.9 | Intended impact

In the absence of any existing pan-European learning-outcomes-based curricula for dental hygiene, it is hoped that the new CEC will help to inform educators and institutions about how to structure, adapt and improve their programmes. Given the novelty of such a curriculum, it is anticipated that the new documents are shared with all stakeholders of dental hygiene education, including the students themselves. Only then, will students be able to take true ownership of their learning and contribute to meaningful and necessary curriculum development.

In common with the GED framework, it is expected that the CEC for dental hygiene will:

- Refine and harmonise dental hygiene curricula across Europe, whilst respecting regional, socio-economic and cultural variation.

- Reinforce the importance of an outcome-based curriculum, which is informed by a robust and effective system of student and staff feedback.
- Provide a clear curriculum that is accessible to all stakeholders of dental hygiene education, including students themselves.
- Enhance patient safety through a high standard of clinical and professional care on a European and global level.
- Act as an *educational* basis from which new European Directives can be formed—in conjunction with relevant European political organisations and in harmony with individual member state requirements.

2.10 | Summary

The CEC for Dental Hygiene now provides a standardised curriculum approach that reflects best academic practice for European dental hygiene education. EDHF is happy to see this document disseminated widely and the outcome will be future derivations which take account of local cultural and patient needs in different areas of the world.

The CEC does not interfere with national regulations on professionals since every country has their own laws, regulation and supervising bodies. Instead, it defines a standard framework for dental hygienist education, giving universities and other providers of dental hygiene training a benchmark from which to tailor their programmes in line with local demands, regulations and aspirations.

ACKNOWLEDGEMENTS

EDHF would like to acknowledge financial support from TePe Oral Hygiene Products AB for open access publication of this article. The kind donation has allowed the resource to be openly available to all.

Corrie Jongbloed-Zoet[1]
Yvonne Nyblom[1]
Ellen Bol[1]
James Clark Field[2]

[1]*European Dental Hygienists Federation, Stockholm, Sweden*
[2]*Faculty of Medicine Dentistry and Health, University of Sheffield, Sheffield, UK*

Correspondence
James Clark Field, Faculty of Medicine Dentistry and Health, University of Sheffield, Sheffield, UK.
Email: j.c.field@sheffield.ac.uk

ORCID

James Clark Field https://orcid.org/0000-0002-5462-4156

REFERENCES

1. CECDO. 2017. http://www.cecdo.org/oral-healthcare/cecdo-database/EU/EEAdatabase17/3/17. Accessed May 21, 19.
2. European Commission. Mutual evaluation of regulated professions: overview of the regulatory framework in the health services sector – dental hygienists and related professions. 2016. https://ec.europa.eu/docsroom/documents/17942/attachments/1/translations/en/renditions/pdf. Accessed May 24, 19.
3. ISCO. 2008. http://www.ilo.org/public/english/bureau/stat/isco/isco08/index.htm. Accessed May 24, 19.
4. EDHF. Professional profile and competences of dental hygienists in Europe. 2016. https://www.edhf.eu/cms/wp-content/uploads/2016/08/EDHF-Professional-Profile-DH-in-Europe-Aug-2016.pdf. Accessed June 11th, 2019.
5. Field JC, Cowpe JG, Walmsley AD. The graduating European dentist: a new undergraduate curriculum framework. *Eur J Dent Educ*. 2017;21(S1):2-10.
6. World Health Organisation (WHO). Health 2020: the European policy for health and well-being. http://www.euro.who.int/en/health-topics/health-policy/health-2020-the-european-policy-for-health-and-well-being. Accessed July 26, 2017.
7. World Health Organisation (WHO). Framework for action on interprofes-sional education and collaborative practice. 2010. http://www.who.int/hrh/resources/framework_action/en/. Accessed July 26, 2017.
8. Cowpe J, Plasschaert A, Harzer W, Vinkka-Puhakka H, Walmsley AD. Profile and competences for the graduating European dentist – update 2009. *Eur J Dent Educ*. 2010;14:193-202.
9. Francis R. *Report of the Mid Staffordshire NHS Foundation Trust Public Enquiry. Executive Summary*. London: The Stationery Office; 2013.

Received: 6 November 2019 | Revised: 16 January 2020 | Accepted: 18 January 2020

DOI: 10.1111/eje.12508

CONSENSUS STATEMENT

WILEY

A common European Curriculum for Dental Hygiene - Domain I: Professionalism

Abstract

This position paper outlines the areas of competence and learning outcomes of the Common European Curriculum for Dental Hygiene (CECDH) that specifically relate to Professionalism. Professionalism is a commitment to a set of values, behaviours and relationships, which underpin the trust that the public hold in Dental Care Professionals. Shortcomings within this domain are often responsible for patient dissatisfaction, concern and complaint—and emphasis is placed on the importance of embedding these values from an early stage within the curriculum.

1 | INTRODUCTION

This position paper outlines the areas of competence and learning outcomes of the Common European Curriculum for Dental Hygiene (CECDH) that specifically relate to Professionalism.

2 | DEFINITION

Professionalism is a commitment to a set of values, behaviours and relationships, which underpin the trust that the public hold in Dental Care Professionals. Shortcomings within this domain are often responsible for patient dissatisfaction, concern and complaint—and emphasis is placed on the importance of embedding these values from an early stage within the curriculum.

3 | DESCRIPTION

Professionalism must permeate all aspects of clinical practice. It is a complex, multi-dimensional construct which has individual, interpersonal and societal dimensions. These are context-dependent and encompass the competences; Ethics, Regulation and Professional Behaviour.

The education and practice of dental hygienists is not regulated across all European countries. Nonetheless, educational programmes should ensure that qualifying hygienists are able to act in the best interests of their patients and the public. Knowledge of the ethical, legal/regulatory and professional basis of dental hygiene is therefore essential to ensuring safe and effective practice. The undergraduate curriculum should reflect this and integrate student learning about professionalism throughout the curriculum to facilitate the development of high standards of professional practice.

Dental hygienists must make the care of patients their primary concern. They must be reflective, clinically competent and keep their knowledge and skills up-to-date by engaging in continuing professional development. They must establish and maintain good relationships with patients and colleagues, communicate effectively, and treat each person as an individual. They should work in partnership with dentists and patients, respecting patient choice and each patient's right to privacy and dignity. It is expected that dental hygienists are committed to high personal and professional standards at all times; they must be responsible, accountable and act within the law. They must seek to maintain the trust the public has in the profession, by raising concerns where necessary.

It may also be necessary, in countries where regulation is absent or limited, for hygienists to demonstrate self-management and self-regulation within oral health and interprofessional settings, within the parameters of relevant local legislation, codes of ethics and practice standards.

The areas of competence in this domain are described below. They include the following:

1.1 Ethics
1.2 Regulation
1.3 Professional Behaviour

3.1 | Area of competence: 1.1: Ethics

Ethics provides the foundation for professionalism. A dental hygienist must understand the ethical principles of health care and be competent to apply them in every aspect of their practice. The core ethical principles likely to apply to dental hygienists are[1]

(i) the primacy of patient welfare
(ii) respect for patient autonomy
(iii) commitment to social justice

Learning outcomes:

At the time of qualification, a dental hygienist should be able to:

1.1.1	Apply core ethical principles to their professional practice
1.1.2	Differentiate between ethical or unethical situations and act on them appropriately
1.1.3	Demonstrate dignity and respect for others, without prejudice in respect of protected characteristics and social perceptions such as age, culture, diversity of background and opportunity, disability, gender, language, religion and sexual orientation
1.1.4	Demonstrate and ensure respect for patient confidentiality at all times, including situations outside the healthcare setting
1.1.5	Demonstrate respect for patient autonomy, patient choices and informed consent
1.1.6	Demonstrate candour, and act without delay if they, or a colleague, or the environment in which they are providing care, is putting someone at risk
1.1.7	Demonstrate digital professionalism by protecting patient data, and the appropriate use of social media and digital communication
1.1.8	Discuss how encounters on social media and through digital communication may force them into ethically challenging situations and/or damage the reputation of the wider profession (bring it into disrepute)

3.2 | Area of competence: 1.2: Regulation

A trained dental hygienist must have comprehensive knowledge of, and the skills to comply with, the regulatory system of the country in which they trained. This will necessarily include legislation and codes of practice applicable to all aspects of the practice of dental hygiene. If hygienists move upon qualification, or thereafter, they will need to ensure that their practice complies with the regulatory system of the country in which they practice. This is very important, given the diversity of scope of practice for dental hygienists in different European countries.

Learning outcomes:

At the time of qualification, a dental hygienist should be able to:

1.2.1	Describe the regulation of the practice of dental hygiene in their member state, including any requirement to be registered with an appropriate regulatory body
1.2.2	Apply the law and guidelines relating to consent to all patients, including children and adults unable to consent for themselves
1.2.3	Apply and adhere to the principles of the European General Data Protection Regulations
1.2.4	Describe, and ensure adherence to, their local scope of practice

3.3 | Area of competence: 1.3: Professional Behaviour

Professional behaviour can be understood as the manner in which one reflects on and reconciles different aspects of professional practice, demonstrating acceptance of professional responsibility and accountability. It is an overarching competence, which must permeate all aspects of dental hygiene practice and is manifested in the manner in which high-quality oral health care is provided.

Learning outcomes:

At the time of qualification, a dental hygienist must be able to:

1.3.1	Communicate effectively with patients, guardians or carers, and colleagues in the dental, and wider healthcare team
1.3.2	Demonstrate a holistic approach to the provision of high-quality patient care at all times
1.3.3	Demonstrate patient-centred care, ensuring that patients' interests come first and acting to protect them at all times
1.3.4	Demonstrate self-awareness and identify their own limitations through self-reflection, critical appraisal and peer review
1.3.5	Process, and act appropriately on feedback from patients, guardians or carers, and colleagues in the dental, and wider healthcare team
1.3.6	Demonstrate conceptual reasoning skills to think through problems and know when to seek professional support or advice
1.3.7	Demonstrate skills in reflection on their own decisions, actions and performance, and be able to apply this to the process of continuing professional development
1.3.8	Demonstrate accountability and the need to explain their actions and decisions with openness and transparency
1.3.9	Contribute to a safe, supportive and professional work environment

ACKNOWLEDGEMENTS

The EDHF would like to acknowledge and thank: The CEF taskforce. All individuals who personally responded to the consultation, in addition to those who coordinated a response on behalf of an organisation, society, regulator or institution. Individuals who have supported reference group activity relating to each of the domains. ADEE representation, from a pedagogic perspective in terms of constructing and defining learning outcomes.

Kerstin Öhrn[1]
Bo Danielsen[2]
James Field[3]

[1]*Dalarna University, Falun, Sweden*
[2]*University of Copenhagen, Copenhagen, Denmark*
[3]*University of Sheffield, Sheffield, UK*

Correspondence
James Clark Field, Faculty of Medicine Dentistry and Health, University of Sheffield, Sheffield, UK.
Email: j.c.field@sheffield.ac.uk

REFERENCES

1. Brennan T, Blank L, Cohen J, et al. Medical professionalism in the new millennium: a physicians' charter. *Ann Intern Med*. 2002;136:243-246.

OTHER RECOMMENDED READING

2. Atkins S, Murphy K. Reflection: a review of the literature. *J Adv Nurs*. 1993;18:1188-1192.
3. Nagatani, et al. Dental hygienists' perceptions of professionalism are multidimensional and context-dependent: a qualitative study in Japan. *BMC Med Educ*. 2017;17(1):267. https://doi.org/10.1186/s12909-017-1107-9.
4. Bilawka E, Craig BJ. Quality assurance and dental hygiene. *Int J Dent Hyg*. 2003;1(4):218-222. PMID:16451503.
5. Brown G, Manogue M, Rohlin M. Assessing attitudes in dental education: is it worthwhile? *Br Dent J*. 2002;193:703-707.
6. Bryden P, Ginsburg S, Kurabi B, Ahmed N. Professing professionalism: are we our own worst enemy? Faculty members experiences of teaching and evaluating professionalism in medical education at one school. *Acad Med*. 2010;85:125-134.
7. Christie C, Bowen D, Paarmann C. Effectiveness of faculty training to enhance clinical evaluation of student competence in ethical reasoning and professionalism. *J Dent Educ*. 2007;71:1048-1057.
8. Cruess SR, Cruess RL, Steinert Y. Role modelling – making the most of a powerful teaching strategy. *BMJ*. 2008;336:718-721.
9. Driessen E, Van Tartwijk J, Van der Vleuten C, Wass V. Portfolios in medical education: why do they meet with mixed success? A systematic review. *Med Educ*. 2007;41:1224-1233.
10. European Parliament Directive2011/24/EU; Application of patients' rights in cross-border healthcare; 2011. http://www.cedentists.eu/library/eu-manual.html.
11. Patients Forum (EPF). Charter on Patient Empowerment. http://www.eu-patient.eu/campaign/PatientsprescribE/charter-on-patient-empowerment/.
12. GDC (General Dental Council). Professionalism case studies. http://tinyurl.com/gdcprofessionalism
13. Gilmour ASM, Jones RJ, Cowpe JG, Bullock AD. Communication and professionalism skills of a new graduate: the expectations and experiences of dental foundation trainers. *Eur J Dent Educ*. 2014;18:195-202.
14. Ginsburg S, Regehr G, Mylopoulos M. From behaviours to attributions: further concerns regarding the evaluation of professionalism. *Med Educ*. 2009;43:414-425.
15. Hafferty FW, Castellani B. The increasing complexities of professionalism. *Acad Med*. 2010;85:288-301.
16. International Federation of Dental Hygienists Code of Ethics. http://www.ifdh.org/dt/ifdh_Code_of_Ethics.pdf. Accessed June 11, 2019.
17. Muhney KA, Campbell PR. Allied dental and dental educators' perceptions of and reporting practices on academic dishonesty. *J Dent Educ*. 2010;74(11):1214-1219.
18. Passi V, Doug M, Peile E, Thistlethwaite J, Johnson N. Developing medical professionalism in future doctors: a systematic review. *Int J Med Educ*. 2010;1:19-29.
19. Passi V, Johnson S, Peile E, Wright S, Hafferty F, Johnson N. Doctor role modelling in medical education: BEME Guide No. 27. *Med Teach*. 2013;35:e1422-e1436.
20. Professional Profile and Competences of Dental Hygienists in Europe; 2016. https://www.edhf.eu/cms/wp-content/uploads/2016/08/EDHF-Professional-Profile-DH-in-Europe-Aug-2016.pdf. Accessed June 11, 2019.
21. Taibah SM. Dental professionalism and influencing factors: patients' perception. *Patient Prefer Adherence*. 2018;12:1649-1658. https://doi.org/10.2147/PPA.S172788. eCollection 2018.
22. Zijlstra-Shaw S, Roberts TE, Robinson PG. Assessing Professionalism within Dental Education; the need for a definition. *Eur J Dent Educ*. 2012;161:e128-e136.
23. Zijlstra-Shaw S, Roberts TE, Robinson PG. Perceptions of professionalism in dentistry – a qualitative study. *Br Dent J*. 2013;215E18:1-6.

Received: 6 November 2019 | Revised: 16 January 2020 | Accepted: 18 January 2020

DOI: 10.1111/eje.12509

CONSENSUS STATEMENT

WILEY

A common European Curriculum for Dental Hygiene - Domain II: Safe and Effective Clinical Practice

Abstract

This position paper outlines the areas of competence and learning outcomes of the Common European Curriculum for Dental Hygiene (CECDH) that specifically relate to Safe and Effective Clinical Practice. Dental hygienists are required to ensure that they are capable of providing safe and appropriate care for their patients, whilst operating effectively within a wider team. The care provided should be based on contemporaneous evidence wherever possible, and the quality of care and the management systems that underpin it should be regularly audited and improved.

1 | INTRODUCTION

This position paper outlines the areas of competence and learning outcomes of the Common European Curriculum for Dental Hygiene (CECDH) that specifically relate to Safe and Effective Clinical Practice.

2 | DEFINITION

Dental hygienists are required to ensure that they are capable of providing safe and appropriate care for their patients. The care provided should be based on contemporaneous evidence wherever possible, and the quality of care and the management systems that underpin it should be regularly audited and improved.

3 | DESCRIPTION

Interventions by dental hygienists have the potential to significantly prevent and reduce the burden of oral disease for patients. It is therefore important for educational programmes to emphasise the principles of preventive care and oral health promotion. The care provided should be based on contemporaneous evidence wherever possible, and the quality of care and the management systems that underpin it should be regularly audited and improved.

It is important to ensure that students are competent in relevant operative procedures and are safe to begin treating patients. This should exist as a robust process, acting as a "gate-keeper" for access to patient care, and effective monitoring systems should also be in place that follow the student's educational journey, longitudinally, throughout the remainder of the programme. Current recommendations that support the "benchmarking" processes for teaching of pre-clinical operative skills that may relate to dental hygiene are already available.[1-3] It is also recommended for schools to employ an electronic portfolio combining clinical activity, performance and reflective practice in order to longitudinally track student progress.[4-6]

The areas of competence in this domain are described below. They include the following:

2.1 Evidence-based Practice
2.2 Team working and Communication
2.3 Audit and Risk Management
2.4 Professional Education and Training
2.5 Leadership and Management

Each of these elements forms part of a wider strategy to continuously improve the quality of clinical care and services that are provided to patients. This wider strategy is often referred to as "clinical governance" and should create an environment within which clinical excellence can flourish.

3.1 | Area of competence 2.1: Evidence-based Practice

Besides knowing the scientific principles that underpin the dental hygienists practice, it is equally important to ensure that they are working to a robust and contemporaneous evidence base. This requires an engaged, motivated and interested professional who is willing to seek out new information, critically review the sources and credibility, and apply it suitably to the clinical environment.

Learning outcomes:

At the time of qualification, a dental hygienist should be able to:

2.1.1	Demonstrate successful engagement with the scientific basis of dental hygiene and oral health care, including the relevant biomedical and social sciences, the mechanisms of knowledge acquisition, scientific method and evaluation of evidence
2.1.2	Evaluate the validity of product claims, primarily in relation to the risk, clinical benefit and cost
2.1.3	Evaluate published research relevant to their scope of practice
2.1.4	Emphasise current concepts of oral health promotion and prevention, behaviour change, risk assessment and treatment of oral disease

3.2 | Area of competence: 2.2: Team working and Communication

A trained dental hygienist is responsible for communicating effectively with their patients, and allied professionals who are involved with patient-centred care. Being able to communicate and integrate effectively within a team requires a degree of emotional competence (Flowers *et al*, 2014).

Learning outcomes:

Within their scope of practice, and upon qualification, a dental hygienist should be able to:

2.2.1	Request and share information and professional knowledge effectively, using verbal, written and electronic methods
2.2.2	Initiate appropriate referrals to effectively manage care including concerns regarding abuse and neglect, oral cancer and other manifestations of oral disease
2.2.3	Effectively engage with the wider dental, medical or social care team, as required, during routine and emergency care
2.2.4	Obtain informed and valid consent by effectively explaining and discussing aspects of treatment planning to patients including risks and benefits
2.2.5	Collaborate with patients and their relatives/carers at all stages in their life, emphasising current concepts of oral health, prevention, risk assessment and treatment of oral disease
2.2.6	Evaluate and account for the intellectual, socio-emotional and language development of their patients
2.2.7	Increase the patient's awareness of their own role in the prevention of oral disease, creating personalised methods and approaches for each patient where possible
2.2.8	Display appropriate professional behaviour towards all members of the dental team and in their dealings with other allied healthcare workers

3.3 | Area of competence: 2.3: Audit and Risk Management

Risk management includes being able to identify when things are going wrong, why they have happened and what to do in order to prevent adverse events from happening again. Clinical audit is a process of measuring and monitoring the quality of care that is provided against a set standard, or previous performance—and this is an essential first step in identifying systematic risks to safe and effective patient-centred care. Human factor analysis should also be considered by individuals who are carrying out risk assessments within the clinical environment—and this involves understanding the behaviour of individuals within the team, their interactions with each other and with their environment. Depending on the country of work and their scope of practice, dental hygienists may well be responsible for implementing effective audit and risk management.

Learning outcomes:

At the time of qualification, a dental hygienist should be able to:

2.3.1	Produce and maintain an accurate, contemporaneous and secure patient record, in accordance with any legal requirements
2.3.2	Effectively identify, communicate and manage the hazards within the clinical environment including cross-infection control, and ionising radiation where appropriate
2.3.3	Check and implement maintenance of dental equipment in a timely manner
2.3.4	Evaluate the satisfaction/dissatisfaction of those directly involved with patient-centred care, including relatives and carers
2.3.5	Correctly interpret and make recommendations based on audit results

3.4 | Area of competence: 2.4: Professional Education and Training

As healthcare professionals, dental hygienists should demonstrate a lifelong commitment to excellence in practice through continuing professional development (CPD) and professional development planning. Qualification is considered to be a "springboard" leading to a period of lifelong learning, underpinned by this professional and academic development, achieved through the acquisition of quality CPD.[7] A trained dental hygienist should therefore be in the habit of continually assessing and updating their knowledge and skills in order to keep up-to-date with the latest developments and evidence-based practice.

Learning outcomes:

At the time of qualification, a dental hygienist must be able to:

2.4.1	Use contemporary information technology for documentation, continuing education, communication and the management of patient information
2.4.2	Review their knowledge and skills base and seek additional information/training to correct any perceived or actual limitations
2.4.3	Demonstrate a "record of achievement," ideally through the use of a contemporaneous portfolio of activity and reflection

3.5 | Area of competence: 2.5: Management and Leadership

Effective clinical leadership is increasingly being shown to result in higher-quality care. The large majority of dental hygienists across Europe will operate as part of healthcare teams—and it is expected that leadership might involve helping to implement, or even setting, vision for the team, and inspiring and setting organisational values and strategic goals. In some countries, dental hygienists may lead wider-healthcare teams and may therefore be responsible for implementing a systematic approach to the delivery of safe, high-quality patient-centred clinical services. This necessarily involves managing people and resources with openness and integrity. On a very basic level, this means ensuring that leaders/managers and the team are adhering to all local policies and procedures. However, dental hygienists in leadership roles may also be required to deal with minor performance issues, effectively audit local performance and mediate necessary changes.

Learning outcomes:

At the time of qualification, a dental hygienist should be able to:

2.5.1	Manage and maintain a safe clinical working environment
2.5.2	Effectively involve other members of the dental team with regard to risk management, for example (but not exclusively) working posture, visual perception, use of equipment, dealing with stress, cross-infection control and working with hazardous chemicals and ionising radiation
2.5.3	Effectively raise concerns in an appropriate manner
2.5.4	Manage adverse events in the short and longer term
2.5.5	Consider implementing changes within the team and the wider practice environment that will significantly improve patient care, efficiency and sustainability of resources

ACKNOWLEDGEMENTS

The EDHF would like to acknowledge and thank: The CEF taskforce. All individuals who personally responded to the consultation, in addition to those who coordinated a response on behalf of an organisation, society, regulator or institution. Individuals who have supported reference group activity relating to each of the domains. ADEE representation, from a pedagogic perspective in terms of constructing and defining learning outcomes.

Kerstin Öhrn[1]
Agnes van Boxtel[2]
James Field[3]

[1]*Dalarna University, Falun, Sweden*
[2]*Hogeschool van Arnhem en Nijmegen, Nijmegen, The Netherlands*
[3]*University of Sheffield, Sheffield, UK*

Correspondence
James Clark Field, Faculty of Medicine Dentistry and Health,University of Sheffield, Sheffield, UK.
Email: j.c.field@sheffield.ac.uk

REFERENCES

1. Field J. *Pre-Clinical Dental Skills Teaching Notes*. Wiley-Blackwell; 2015. http://tinyurl.com/keyclinicalskills. Accessed January 10, 2020.
2. ASPiH. Simulation-based Education in Healthcare: Standards Framework; 2017. http://tinyurl.com/aspihstandards. Accessed January 10, 2020.
3. CEPTS. Improving Safety through education and training: a report by the Commission on Education and Training for Patient Safety; 2016. http://tinyurl.com/ceptsnhs. Accessed January 10, 2020.
4. Villalonga R, Pujol R, Moreno V, Carratala J, Borrell F, Gudiol F. The electronic portfolio as a teaching complement for technical skills in health sciences. *J Cases Inf Technol*. 2014;16:24-37.
5. Vernazza C, Durham J, Ellis J, et al. Introduction of an e-portfolio in clinical dentistry: staff and student views. *Eur J Dent Educ*. 2011;15:36-41.
6. Kardos R, Cook J, Butson R, Kardos T. The development of an ePortfolio for life-long reflective learning and auditable professional certification. *Eur J Dent Educ*. 2009;13:135-141.
7. DentCPD. Dental continuing professional development (CPD) reference manual. *Eur J Dent Educ*. 2013;17(Suppl 1):i-iv, 1–84.

OTHER RECOMMENDED READING

8. Bonsignore C, Brolis E, Ionescu A, et al. Patient empowerment and centredness. *Eur Health Parliam*. 2015; http://tinyurl.com/europeanhealthparliament
9. European Commission Report. Future EU Agenda on quality of health care with a special emphasis on patient safety. 2014; http://tinyurl.com/ECreportpatientsafety
10. Flowers L, Thomas-Squance R, Brainin-Rodriguez J, Yancey A. Interprofessional social and emotional intelligence skills training: study findings and key lessons. *J Interprof Care*. 2014;28:157-159.
11. Gilmour A, Jones R, Cowpe J, Bullock A. Communication and professionalism skills of a new graduate: the expectations and experiences of dental foundation trainers. *Eur J Dent Educ*. 2014;18:195-202.
12. Wilder RS, Guthmiller JM. Empowerment through mentorship and leadership. *J Evid Based Dent Pract*. 2014;14(Suppl):222-226. https://doi.org/10.1016/j.jebdp.2014.04.006. Epub 2014 Apr 4. Review.
13. Rogo EJ, Bono LK, Peterson T. Developing dental hygiene students as future leaders in legislative advocacy. *J Dent Educ*. 2014;78(4):541-551.
14. Blue CM. Cultivating professional responsibility in a dental hygiene curriculum. *J Dent Educ*. 2013;77(8):1042-1051.

Received: 6 November 2019 | Revised: 16 January 2020 | Accepted: 18 January 2020

DOI: 10.1111/eje.12510

CONSENSUS STATEMENT

WILEY

A common European Curriculum for Dental Hygiene - Domain III: Patient-centred Care

1 | INTRODUCTION

This position paper outlines the areas of competence and learning outcomes of the Common European Curriculum for Dental Hygiene (CECDH) that specifically relate to patient-centred care.

2 | DEFINITION

Patient-centred care is defined by the Institute of Medicine (2011) as "Providing care that is respectful of and responsive to individual patient preferences, needs and values, and ensuring that patient values guide all clinical decisions." This means a shared decision making and support for self-care.

3 | DESCRIPTION

Dental hygienists´ primary focus is on oral health promotion and disease prevention. Dental hygienists must be aware of the scientific basis that underpins the treatment they provide. They have to incorporate behavioural, social and biomedical science knowledge in order to generate evidence-based judgements.[1] In many cases, dental hygienists across Europe will be working to a prescription from a dentist—and as such are not often required to formulate diagnoses. However, where dental hygienists *are* able to treat patients directly, the process of planning and evaluating treatment requires dental hygienists to be able to listen, collate and record pertinent information effectively. The degree to which a dental hygienist can assess and discriminate patient emotion will undoubtedly affect the quality and accuracy of history-taking. The ability to read and manage emotions is, therefore, considered to be an important skill for any health care professional.[2]

In addition, the ability to account for a patient's social, cultural and linguistic needs (cultural competence) will result in a dental hygienist who is able to provide *patient-centred care*.[3] This often results in patients being more satisfied and more likely to actively participate in their treatment.[4,5]

The areas of competence that underpin *Patient-Centred Care* are described below. They include as follows:

3.1 Applying the Scientific Basis of Oral Health Care
3.2 Clinical Information Gathering
3.3 Diagnosis and Treatment Planning
3.4 Establishing and Maintaining Oral Health

3.1 | Area of competence: 3.1: Applying the scientific basis of oral health care

The scientific basis of dental hygiene encompasses behavioural, social and biomedical sciences. Within this domain, the recommendation is that educators refer to published papers and guidelines from specialists in dentistry as well as published papers in health promotion and behavioural change.

Learning outcomes:

At the time of qualification, and *in keeping with their scope of practice*, a dental hygienist should be able to apply the *scientific knowledge* base relating to:

3.1.1	The aetiology, pathology, diagnosis and *preventive* management of (a) dental caries, (b) tooth surface loss and (c) gingival, periodontal and peri-implant diseases
3.1.2	Anatomy and physiology relevant to the clinical practice of the dental hygienist
3.1.3	Tooth development and tooth eruption of the primary, transitional and permanent dentition
3.1.4	Social and behavioural sciences, with an emphasis on behaviour change
3.1.5	Communication and acclimatisation in relation to children and adolescents, and those with special needs
3.1.6	Principles and methods of imaging relevant to oral health care
3.1.7	Diagnostic radiography, including hazards and regulations relating to its use including indication, taking and interpretation of the radiograph
3.1.8	The relationship between systemic health and oral health and disease
3.1.9	Pharmacology and therapeutics relevant to the clinical practice of the dental hygienist
3.1.10	Impact of oral health on "Quality of Life"

3.1.11	Effects of tobacco, alcohol and substance abuse, on general and oral health and appropriate methods of intervention and referral
3.1.12	Sterilisation, disinfection and decontamination, and the core principles of infection prevention and control
3.1.13	Immediate management of medical emergencies
3.1.14	Risks, benefits and limitations of relevant dental materials, including environmental/political issues regarding to their use
3.1.15	Risks, benefits and limitations of oral hygiene products available to their patients
3.1.16	Abuse, neglect and non-accidental injury, and safeguarding of individuals at risk of harm, including appropriate referral mechanisms

3.2 | Area of competence: 3.2: Clinical information gathering and diagnosis

To be able to make shared decisions, it is necessary to gather information relating to a patient's ideas, concerns and expectations. This is especially important in relation to oral health promotion and prevention, which often requires behavioural change. In some cases, dental hygienists must also gather clinical information, interpret data and formulate diagnoses.

Learning outcomes:

At the time of qualification, and *in keeping with their scope of practice*, a dental hygienist should be able to effectively *gather, record and interpret information* relating to:

3.2.1	Patient presenting conditions, including a comprehensive history
3.2.2	Concerns, ideas and expectations of the patients or their carers
3.2.3	Medical, family, social and dental history
3.2.4	Common oral diseases and disorders including (but not necessarily limited to): dental caries, gingival, periodontal, and peri-implant diseases, and other soft tissue pathologies
3.2.5	Extra-oral and intra-oral soft and hard tissues of the oro-facial region, including (where appropriate) radiographic assessment
3.2.6	Individual patient risk factors for dental caries, gingival, periodontal and peri-implant diseases
3.2.7	Individual patient risk factors for oral health and the relation to general health
3.2.8	Dietary and behavioural analysis (particularly relating to oral hygiene practice and the use of tobacco, alcohol and drugs)
3.2.9	Factors that increase the risk of medical emergency within the dental setting
3.2.10	Appropriate investigations and diagnostic tests relative to their scope of practice
3.2.11	A graduating Dental Hygienist *may be required* to synthesise the information obtained, in order to diagnose and manage patients *within the scope their practice*.

3.3 | Area of competence: 3.3: Treatment planning

Once a diagnosis is determined, an appropriate treatment plan should be devised. Depending on their scope of practice, the treatment plan may either be devised by the dental hygienist themselves, or a referring dentist. If the hygienist is working to a prescription from a dentist, it may still be necessary for them to devise a patient-specific plan of treatment for the oral hygiene and preventive components.

Learning outcomes:

At the time of qualification, a graduating dental hygienist should be able to:

3.3.1	Effectively engage with the wider medical and dental team in relation to treatment planning and the execution of care
3.3.2	Communicate effectively with the patient, in order to jointly select and prioritise appropriate treatment options that are sensitive to each patient's individual needs, goals and values compatible with contemporaneous methods of treatment and prevention
3.3.3	Consider the needs of the very young and/or anxious patient, the elderly, the medically-compromised patient or any other patient with special needs
3.3.4	Consider patient expectations, capacity, desires and attitudes in relation to treatment planning, where this falls within their scope of practice
3.3.5	Use behaviour and lifestyle analysis, identifying individual risk factors for oral health to develop a prevention programme to maintain good oral health
3.3.6	Consider implications of existing systemic disease and polypharmacy in relation to treatment planning, where this falls within their scope of practice
3.3.7	Identify and consider relevant psychological and social factors that may complicate treatment planning, the delivery of care and appropriate maintenance/follow-up
3.3.8	Participate in the prompt and proper referral when appropriate to do so

3.4 | Area of competence: 3.4: Establishing and maintaining oral health

Learning outcomes:

Dental hygienists are key providers of oral health promotion and prevention. A critical part of this process involves developing appropriate behaviour change with patients. This means communicating effectively with patients at all stages of their lives, including children, adolescents, adults and the ageing population. Current concepts of prevention and treatment (within their scope of practice) should be implemented using recognised materials and techniques that maintain soft and hard tissue health and that are acceptable to the patient.

In relation to prescribing, and where this activity falls within the dental hygienist's scope of practice, educators are directed to the European Centre for Disease Prevention and Control guidance[6] and specifically the NICE (National Institute for Health & Care Excellence) guidelines, which has a number of useful associated

e-learning resources on antimicrobial stewardship. This is increasingly important to slow the emergence of antimicrobial resistance and ensure that antimicrobials remain an effective treatment option for infection.

At the time of qualification, and in keeping with their scope of practice, a dental hygienist should be able to:

3.4.1	Develop an effective preventive programme in order to establish and maintain good oral health
3.4.2	Develop strategies that (a) evaluate and improve a patient´s oral hygiene regime, and (b) control habits that impact negatively on their oral health (including, but not limited to, dietary habits, tobacco use, alcohol consumption and substance abuse)
3.4.3	Prescribe and apply fluoride (and other relevant products, where appropriate), and carry out non-operative procedures that prevent hard tissue disease
3.4.4	Safely apply pit and fissure sealants
3.4.5	Perform non-surgical periodontal therapy (including prophylaxis, stain removal, biofilm disruption, supragingival and subgingival root surface debridement) using both powered and manual instrumentation to promote periodontal and soft tissue health
3.4.6	Assess indications and contraindications for the use of local anaesthetic in the oral cavity for non-surgical periodontal procedures
3.4.7	Effectively administer infiltration and block anaesthesia where appropriate, managing any complications that may arise
3.4.8	Perform non-invasive procedures designed to modify the colour of teeth, such as tooth whitening and prophylaxis, subject to a prescription from a dentist where necessary
3.4.9	Fit, maintain and remove fixed and removable orthodontic appliances under prescription from a dentist
3.4.108	Manage medical emergencies
3.4.9	Longitudinally evaluate their interventions, and establish a maintenance and monitoring programme, involving the wider oral health team, other health care professionals and or carers where appropriate

ACKNOWLEDGEMENTS

The EDHF would like to acknowledge and thank: The CEF taskforce. All individuals who personally responded to the consultation, in addition to those who coordinated a response on behalf of an organisation, society, regulator or institution. Individuals who have supported reference group activity relating to each of the domains. ADEE representation, from a pedagogic perspective in terms of constructing and defining learning outcomes.

Kerstin Öhrn[1]
Yvonne Howell[2]
Martin Fugill[3]
James Field[4]

[1]*Dalarna University, Falun, Sweden*
[2]*Trinity College, Dublin, Ireland*
[3]*European Dental Hygienists Federation, UK Representative*
[4]*University of Sheffield, Sheffield, UK*

Correspondence
James Clark Field, Faculty of Medicine Dentistry and Health, University of Sheffield, Sheffield, UK.
Email: j.c.field@sheffield.ac.uk

REFERENCES

1. Sunell S, Asadoorian J, Gadbury-Aymot C, Biggar H. Competencies for Canadian baccalaureate dental hygiene education: a Delphi study, Part I. *Can J Dent Hyg*. 2015;49:57-73.
2. Birks Y, Watt I. Emotional intelligence and patient-centred care. *J R Soc Med*. 2007;100(8):368-374.
3. Scambler S, Delgado M, Asimakopolou K. Defining patient-centred care in Dentistry? A systematic review of the dental literature. *Br Dent J*. 2016;221(8):477-484.
4. Cuevas A, O'Brien K, Saha S. What is the key to culturally competent care: reducing bias or cultural tailoring? *Psychol Health*. 2017;32(4):493-507.
5. Brunett M, Shingles R. Does having a culturally competent healthcare provider affect the patients' experience or satisfaction? A critically-appraised topic. *J Sport Rehabil*. 2017;17:1-14.
6. ECPDC (European Centre for Disease Prevention and Control). Online resource: http://tinyurl.com/abstewardshipguidelines

OTHER RECOMMENDED READING

7. Allaire JL. Assessing critical thinking outcomes of dental hygiene students utilizing virtual patient simulation: a mixed methods study. *J Dent Educ*. 2015 Sep;79(9):1082-1092. PMID: 26329033.
8. Beistle KS, Palmer LB. Exploration of critical thinking in dental hygiene education. *J Dent Hyg*. 2014 Dec;88(6):394-402. PMID: 25534693.
9. Cairns A, Welbury R. The responsibilities of the dental team in child protection. *Vital*. 2005;2:23-25.
10. Field JC, Kavadella A, Szep S, Davies JR, DeLap E, Manzanares Cespedes MC. The graduating European dentist—domain III: patient-centred care. *Eur J Dent Educ*. 2017;21:18-24.
11. Forrest JL, Overman P. Keeping current: a commitment to patient care excellence through evidence based practice. *J Dent Hyg*. 2013 Jan;87(Suppl 1):33-40. PMID: 24046340.
12. Holliday R, Amin K, Lawrence V, Preshaw PM. Tobacco education in UK dental schools: a survey of current practice. *Eur J Dent Educ*. 2017. https://doi.org/10.1111/eje.12280
13. Lang NP, Suvan JE, Tonetti MS. Risk factor assessment tools for the prevention of periodontitis progression a systematic review. *J Clin Periodontol*. 2015 Apr;42(Suppl 16):S59-S70. https://doi.org/10.1111/jcpe.12350. Review. PMID: 25496279.
14. Laronde DM, Corbett KK. Adjunctive screening devices for oral lesions: their use by Canadian dental hygienists and the need for knowledge translation. *Int J Dent Hyg*. 2017 Aug;15(3):187-194. https://doi.org/10.1111/idh.12190. Epub 2015 Dec 22 PMID: 26694690.
15. Miles SS, Rogo EJ, Calley KH, Hill NR. Integration of the client self-care commitment model in a dental hygiene curriculum. *Int J Dent Hyg*. 2014 Nov;12(4):305-314. https://doi.org/10.1111/idh.12070. Epub 2014 Feb 21.
16. Ramseier CA, Christen A, McGowan J, McCartan B, Minenna L, Ohrn K, Walter C. Tobacco use prevention and cessation in dental and dental hygiene undergraduate education. *Oral Health Prev Dent*. 2006;4(1):49-60. Review. PMID: 16683397

17. Ramseier CA, Suvan JE. Behaviour change counselling for tobacco use cessation and promotion of healthy lifestyles: a systematic review. *J Clin Periodontol*. 2015 Apr;42(Suppl 16):S47-S58. https://doi.org/10.1111/jcpe.12351. Review. PMID: 25496370.
18. Singleton JA, Carrico RM, Myers JA, Scott DA, Wilson RW, Worth CT. Tobacco cessation treatment education for dental students using standardized patients. *J Dent Educ*. 2014;78:895-905.
19. Stolberg RL, Tilliss T. The Baccalaureate-Educated Dental Hygienist. *J Evid Based Dent Pract*. 2016 Jun;16(Suppl):136-143. https://doi.org/10.1016/j.jebdp.2016.01.025. Epub 2016 Feb 5. PMID: 27237007
20. Walsh M, Ortega E, Heckman B. The dental hygiene scholarly identity and roadblocks to achieving it. *J Dent Hyg*. 2016 Apr;90(2):79-87. PMID: 27105786.

Received: 6 November 2019 | Revised: 16 January 2020 | Accepted: 18 January 2020

DOI: 10.1111/eje.12511

CONSENSUS STATEMENT

WILEY

A common European curriculum for Dental Hygiene – Domain IV: Oral health in Society

1 | INTRODUCTION

This position paper outlines the areas of competence and learning outcomes of the Common European Curriculum for Dental Hygiene (CECDH) that specifically relate to Oral Health in Society.

2 | DEFINITION

In addition to treating individual patients, a hygienist should be able to focus on promoting health and implementing effective strategies of care. This necessarily involves understanding population demography and health trends, in the context of the health-care system, or systems, within which they work.

3 | DESCRIPTION

Recognising that most dental hygiene is delivered within a primary dental care setting, where dental hygienists practise as members of teams in health-care systems, it is important that they:

- take account of the wider context within which they practise
- integrate effectively with society
- advocate for general and oral health, and system change

In these circumstances, it would be useful for the curriculum to reflect the importance of these principles and provide students with the opportunity to engage outside of typical dental settings. This may involve engaging with community action groups, visiting and spending time in other health-care settings or gaining experience of the regulatory and public health aspects of dental hygiene.

It is also important that dental hygienists qualify with knowledge of potential career options and training opportunities.

The areas of competence in this Domain are described below: They include:

4.1 Health-care Systems
4.2 Public Oral Health and Health Promotion
4.3 Population Demography, Health and Disease
4.4 Health Advocacy

Whilst it is expected that a graduating dental hygienist *should* be able to demonstrate the learning outcomes listed under Area of Competence 4.1 (Health-care systems), it may be there is less expectation surrounding the remaining Areas of Competence, dependent on the country of qualification.

3.1 | Area of competence: 4.1: Health-care Systems

Dental hygienists should possess a working knowledge of health-care and oral health-care systems and how these systems serve the population, particularly vulnerable groups. Knowledge of national policies and those advocated by the World Health Organisation and the United Nations is considered to be important.

Learning outcomes:

At the time of qualification, a graduating dental hygienist should be able to:

4.1.1	Describe various oral health-care systems, including remuneration and payment systems, and debate their merits
4.1.2	Discuss examples of changes in health services at local and national levels, in support of health
4.1.3	Describe their available career choices and training opportunities

3.2 | Area of competence: 4.2: Public Oral Health and Health Promotion

Public oral health can be considered synonymously with dental public health. This is concerned with the strategic aspects of oral health at individual, community and population levels. It has been defined as "the science of preventing oral disease, promoting oral health and the quality of life through the organised efforts and informed choices of society, public and private; communities and individuals".[1]

Learning outcomes:

At the time of qualification, a graduating dental hygienist may be able to:

4.2.1	Define Oral Health and Oral Public health and recognise their importance in relation to general health
4.2.2	Describe examples of effective public oral health-care interventions
4.2.3	Apply appropriate guidelines on oral health education when working with individuals or communities
4.2.4	Describe the dynamic relationship between oral and systemic disease, discussing the associated risk factors which are important considerations for public health
4.2.5	Use epidemiological data in planning effective oral health initiatives
4.2.6	Carry out oral health screening and referrals, within the community, where appropriate
4.2.7	Discuss collaborative models of policy to empower individuals and communities concerning oral health

3.3 | Area of competence: 4.3: Population Demography, Health and Disease

Depending on the country of qualification, the dental hygienist may need to have knowledge of the global burden of oral disease, population demographics and social, general and oral health trends. Dental hygienists may also need to be familiar with the tools for assessing, monitoring and interpreting oral health needs.

Learning outcomes:

At the time of qualification, a graduating dental hygienist may be able to:

4.3.1	Describe demographic trends and discuss their implications on oral health
4.3.2	Describe the process of assessing population oral health needs including the use of epidemiological tools and indicators
4.3.3	Discuss local trends of prevalent oral diseases
4.3.4	Discuss national and global oral health trends and their implications

3.4 | Area of competence: 4.4: Health Advocacy

Depending on the country of qualification, the dental hygienist may need to have knowledge of how to engage with, and support health-care communities, in order to reduce inequities in the oral health status of local populations, and increase access to oral health services.

Learning outcomes:

At the time of qualification, a graduating dental hygienist may be able to:

4.4.1	Engage with other professionals for health promotion and education
4.4.2	Establish a relationship with the community and other stakeholders, advocating the effective promotion of oral health
4.4.3	Engage with individuals and organisations to address oral health inequalities

ACKNOWLEDGEMENT

The EDHF would like to acknowledge and thank: The CEF taskforce. All individuals who personally responded to the consultation, in addition to those who coordinated a response on behalf of an organisation, society, regulator or institution. Individuals who have supported reference group activity relating to each of the domains. ADEE representation, from a pedagogic perspective in terms of constructing and defining learning outcomes.

Kerstin Öhrn[1]
Henrique Soares Luis[2]
Olivia Marchisio[3]
James Field[4]

[1]*Dalarna University, Falun, Sweden*
[2]*Universidade de Lisboa, Lisbon, Portugal*
[3]*University of Pavia, Pavia, Italy*
[4]*University of Sheffield, Sheffield, UK*

Correspondence
James Clark Field, Faculty of Medicine Dentistry and Health, University of Sheffield, Sheffield, UK.
Email: j.c.field@sheffield.ac.uk

REFERENCE

1. Gallagher JE. Wanless: a public health knight in pursuit of good health for the whole population. *Community Dent Health*. 2005;22:i-iv.

OTHER RECOMMENDED RESOURCES

2. Eaton KA, Ramsdale M, Leggett H, Csikar J, et al. Variations in the provision and cost of oral healthcare in 11 European countries: a case study. *Int Dent J*. 2018 Sep 19. https://doi.org/10.1111/idj.12437. [Epub ahead of print].
3. Kanji Z, Laronde DM. Career outcomes of dental hygiene baccalaureate education: a study of graduates' professional opportunities, further education, and job satisfaction. *J Dent Educ*. 2018 Aug;82(8):809-818. https://doi.org/10.21815/JDE.018.075. PMID: 3006876.
4. Pervez A, Kinney JS, Gwozdek A, Farrell CM, Inglehart MR. Education about dental hygienists' roles in public dental prevention programs: dental and dental hygiene students' and faculty members' and dental hygienists' perspectives. *J Dent Educ*. 2016 Sep;80(9):1071-1081. PMID: 27587574.
5. Rogo EJ, Bono LK, Peterson T. Developing dental hygiene students as future leaders in legislative advocacy. *J Dent Educ*. 2014 Apr;78(4):541-551. PMID: 24706683.
6. Widström E, Tillberg A, Byrkjeflot LI, Stein L, Skudutyte-Rysstad R. Community-based preventive activities in the Public Dental Service in Norway. *Int J Dent Hyg*. 2018 May;16(2):e112-e119. https://doi.org/10.1111/idh.12326. Epub 2017 Dec 13 PMID: 29235237.