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Curriculum guidelines for predoctoral pedodontics — a report

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Abstract

During the past two years, the Section on Pedodontics of the American Association of Dental Schools has developed Curriculum Guidelines for Predoctoral Pedodontics. These guidelines provide a construct for scope and content of curriculum development including goals of instruction, appropriate educational methodologies in various settings, sequencing of instruction, necessary faculty and staff, as well as an evaluation statement. In addition, this article traces historically the development of the Guidelines by the Section.

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* Past Chairman, Section on Pedodontics

Introduction

In 1974, the House of Delegates of the American Association of Dental Schools passed Resolution 7-74-H which stated:

> Resolved, that the American Association of Dental Schools strongly favor the development of guidelines by sections as course development aids for individual schools; but be it further Resolved, that when such guidelines are developed the following statement be appended:
>
> > These guidelines have been developed by the Section on (appropriate section) of the American Association of Dental Schools for use by individual educational institutions as curriculum development aids. They are not official policy statements of the AADS and should not be construed as recommendations for restrictive requirements.

In January of 1976, the Executive Committee of AADS passed a motion approving the Council on Sections proposed "Guidelines for Writing Curricular Guidelines" for use for the Association's sections. Subsequently the guidelines were distributed by the Council on Sections to the various section officers for their use.

At the annual session that year, the House of Delegates passed resolution 3-76-H reaffirming the Association's policy relative to curriculuar guidelines as previously stated in Resolution 7-74-H. In 1978, by House Resolution 8-78-H, the previously stated Association policy was added to *AADS Policy Statements.*

Developmental Background

At the annual session of the AADS meeting in Las Vegas, March, 1977, the Chairman of the Section on Pedodontics, David Nash of West Virginia University, appointed a committee of Section members to begin work on a guidelines statement for predoctoral pedodontics. The committee was chaired by Thomas Barber of the University of California, Los Angeles and Milton Gellin of the University of Kentucky. Committee members were David Avery, Indiana University; Milton Houpt, New Jersey College of Medicine and Dentistry; Jon Kapala, Boston University; Ted Oldenburg, University of North Carolina; William Posnick, University of North Carolina and Stephen Wei, University of Iowa. The Committee held an organizational meeting to develop strategies for preparing the document in May, 1977 at the annual meeting of the American Academy of Pedodontics in Bal Harbour, Florida.

The activities of the committee resulted in an initial guidelines document being submitted to the officers of the Section in February, 1978. After careful review by the officers, Chairman Nash, Chairman-elect Robert Musselman of Louisiana State University and Secretary Bernard Machen of North Carolina, the decision was made to seek further suggestions from the membership. Consequently, a special meeting of the Section was called at the 1978 annual session in Washington for the purpose of discussing principles to be considered in drafting a final guidelines statement. The ADA Curriculum Survey was employed as a guide for the discussion.

Subsequent to the meeting, Chairman Musselman appointed David Nash to chair a new committee composed of the Section officers to further revise the guidelines statement.

A second draft of the guidelines was prepared and ready for review at an *ad hoc* meeting of the Section held during the American Academy of Pedodontics meeting in San Diego, May, 1978. A group of approximately 25 members of the Section reviewed this draft carefully and offered their constructive criticisms. As a result of this critique, a third draft was developed by the committee chairman and circulated by the Section chairman to all members of the Section on Pedodontics and all department of Pedodontics' chairpersons in United States' Schools of Dentistry for their review and comment.

In September of 1978, the completed document was mailed to all members of the Section with a ballot requesting their approval. The document was favorably received and was subsequently submitted to the Administrative Board of the Council on Sections. It was accepted by them in October of 1978 with the recommendation that it be published. The Executive Board of the AADS accepted the guidelines at their meeting in January, 1979. In addition, the guidelines were submitted to the Board of Directors of the American Academy of Pedodontics for their review. This body endorsed the guidelines for teaching predoctoral pedodontics in November, 1978.

The Section on Pedodontics attempted to obtain active participation of every member of the Section in the development of the guidelines. The open meetings held for discussion as well as the circulation of the several drafts of the document provided ample opportunity for each member to participate in its formulation. The Section does not believe the guidelines should be considered final but should undergo re-evaluation and revision on a regular basis.

Any member of the Section on Pedodontics may propose a revision or addition to these guidelines. These recommendations must be submitted to the Section officers in ample time to be circulated to all the Section members 30 days prior to the annual session. The specific suggestion will then be acted on during the Section's business meeting.

An addition was suggested and circulated to all the members prior to the Section's meeting in March, 1979 in New Orleans. The addition gave special emphasis to dentistry for the adolescent and was approved unanimously by the members. Subsequently this addition and the entire Curriculum Guidelines for Predoctoral Pedodontics were reviewed and approved by the Administrative Board of the Council on Sections and the American Association of Dental Schools Executive Committee. The addition was also endorsed by the American Academy of Pedodontics at their annual meeting in May, 1979.

The Curriculum Guidelines for Predoctoral Pedodontics are reprinted here in their entirety:

Preface

These guidelines have been developed by the Section on Pedodontics of the American Association of Dental Schools for use by individual educational institutions as curriculum development aids. They are not official policy statements of the AADS and should not be construed as recommendations for restrictive requirements.

Introduction

Pedodontics* is that area of dentistry concerned with the provision of comprehensive preventive and therapeutic oral health care for children from birth through adolescence including care for special patients beyond the age of adolescence who demonstrate mental, physical and/or emotional problems.** It constitutes a significant portion of the practice of dentistry. Because of the several unique aspects of providing dental care for children, pedodontics has attained the status of an independent yet integrated area of subject matter within the dental curriculum. The focus and perspective of the child must be considered in educating dentists who are skillful in rendering intricate and demanding care, have knowledge of the human organism essential to making sound judgments and possess an attitude of social responsibility traditionally expected of a health practitioner. The curriculum in pedodontics provides such a focus and perspective.

Curriculum Goals

The goals of the curriculum in pedodontics are to:

- Prepare student dentists to provide, either by treating or in selected instances referring, comprehensive dental care for the pediatric patient.

- Create an attitude toward pedodontics in student dentists so that subsequent to graduation they will provide care for the pediatric patient.

- Develop an attitude toward learning so that student dentists will seek opportunities to further their knowledge and skills in pedodontics subsequent to graduation.

- Sensitize student dentists to their environment to the extent they will actively seek to fulfill their responsibility as health professionals to the children in the community.

Curriculum Scope And Content

The series of integrated learning experiences in pedodontics is designed to achieve the goals as specified. Provision of comprehensive patient care requires that the dental health practitioner be capable of completing several basic tasks. Upon completion of the pedodontic curriculum, the dentist should be able to:

- Differentiate between normal and abnormal physical and pyschological development of the child.

- Guide the behavior of the child to the extent that necessary dental procedures can be completed.

- Develop a data base from which to formulate an accurate diagnosis.

- Diagnose the nature of a child's oral health problem and plan appropriate therapy.

- Effectively communicate with the child's parents.

- Implement a scientifically-based, effective program of primary prevention.

- Render restorative care for primary and young permanent teeth whose structural integrity has been compromised.

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* As used, pedodontics is synonymous with the term Pediatric Dentistry.

** Definition of the American Academy of Pedodontics.

- Treat pulpally affected primary and young permanent teeth.

- Superintend the developing occlusion in such a manner that selected malocclusions can be prevented or intercepted with appropriate therapy.

- Manage care for the child subsequent to oral trauma.

- Manage dental care for that portion of the population that are mentally, physically and/or emotionally handicapped.

- Refer to appropriate individuals those children for whom the dentist is not qualified or competent to provide required care.

The curriculum in pedodontics must address itself to several general areas in anticipation of preparing the practitioner to achieve the prescribed objectives. The scope and depth of instruction in each area may vary from one educational institution to another depending upon the particular circumstances and constraints. In certain institutions the charge for instruction of the subject matter may be to an organizational unit other than pedodontics. Regardless, the following are core items for presentation:

Growth and Development

Parameters of physical growth and development, personality development, craniofacial growth, dental development including prenatal development, the infants' mouth, primary dentition, mixed dentition, early permanent dentition and developmental disturbances of the teeth and oral structures.

Behavior Management

Behavior characteristics of children and parents, office policies and practices that facilitate management of the child, effective interpersonal communication between dentist, parent and child, special technics for dealing with the difficult-to-manage child including the use of physical restraint, premedication, nitrous oxide analgesia and general anesthesia.

Oral Diagnosis/Treatment Planning/Case Presentation

History; clinical examination, radiographic examination, impressions and diagnostic casts, treatment planning guidelines and case presentation technics.

Preventive Dentistry

Cariology, fundamentals of periodontal disease with reference to children, fluoridation, dietary fluorides, topical fluorides, fissure sealants, oral hygiene, dietary counseling, patient and parent education and motivation.

Restorative Dentistry

Rubber dam utilization, amalgam restorations, stainless steel crowns, resin restorations, fixed and removable prosthodontics with particular reference to adolescence.

Pulpal Therapy

Direct and indirect pulpal therapy, pulpotomy, root canal therapy for primary teeth and apexification.

Management of the Developing Occlusion

Diagnostic considerations, treatment alternatives, treatment decision-making, fabrication of appliances and referral criteria.

Trauma to the Dentition and other Oral Structures

Epidemiology of injuries; prevention of injuries, classification of injuries, diagnostic considerations, treatment of crown fractures, root fractures, luxation injuries, avulsion in permanent and primary dentitions and management of injuries to the oral soft tissues in children.

Oral Surgery/Oral Medicine/Oral Pathology

Local anesthesia, pain control, extraction of primary teeth, management of infection, pathologies of the oral cavity and diseases of children.

Dentistry for the Handicapped

General characteristics of common handicapping conditions (mental, physical, emotional), dental characteristics of common handicapping conditions and specific aspects of dental care for common handicapping conditions.

Dentistry for the Adolescent

Behavior of the adolescent, development of the dentition, ages 10-18 years, migration of teeth following tooth loss, space maintenance, treatment associated with congenitally missing teeth and fixed and removable prosthodontics for the adolescent.

In addition to these general topics, elective/selective opportunities should be provided for pre-doctoral student dentists interested in attaining a deeper knowledge and understanding of pedodontics.

Instructional Modalities

Instruction in pedodontics potentially occurs in four settings: the classroom, the laboratory, the clinic and the community. Each setting has a unique impact on the achievement of the cognitive, psychomotor and affective objectives of the curriculum even though all four environments contribute to the attainment of the objectives in each of the three domains of learning.

• Classroom

The classroom is viewed as a base for developing cognitive skills. Many different approaches to teaching may originate from the classroom: self-instructional approaches employing slide/tape-scripts, video-tapes, computer assisted approaches, simulations, independent study and research, lecturing, guided discussion, small-group interaction and problem solving sessions to mention a few. This didactic instruction provides a foundation of cognition upon which to build the psychomotor skills of the student dentist and the attitudes desired of a health professional.

• Laboratory

The primary function of the laboratory is the development of psychomotor skills. In some schools, especially where experience in pedodontics is placed early in the curriculum, the initial experiences in performing procedures will be in the laboratory. In other schools, a laboratory experience may not be essential and it will not be provided. When included, the laboratory experiences generally consist of technics such as the following:

alginate impressions, diagnostic casts, amalgam and resin restorations, stainless steel crowns, restoration of a fractured incisor, arch length and cephalometric analysis and fabrication of appliances commonly employed to manage the developing occlusion, such as, space maintainers, space regainers, crossbite correction appliances, oral habit appliances and Hawley appliances.

If a laboratory experience is not provided, these technics may be performed initially in the clinic with careful instruction and close supervision by clinical faculty.

- **Clinic**

In the clinical setting, the student dentist acquires the perceptual-motor skills necessary to render care for children. As the motor skills increase, the student works more rapidly and with greater accuracy, expending less effort and performing more proficiently under varying and even unpredictable conditions. Considerable clinical experience is necessary to develop these skills to the level where the student dentist is competent to care for the pediatric patient independent of supervision.

Pedodontic clinical programs should emphasize comprehensive patient care. The student dentist should be able to initiate treatment on a child, follow treatment through to completion and periodically monitor the child to insure continued dental health. In all circumstances, attention should be given to the holistic concept of care so that the student dentist develops an awareness of and appreciation for the total child. Clinical systems that subordinate the patient's treatment needs to the educational requirements of the student dentist should not be employed. The student dentist should have an opportunity to perform the clinical procedures commonly associated with children's dentistry. These include but are not limited to:

clinical and radiographic examination, diagnosis and treatment planning, case presentation, patient education, plaque removal and topical fluoride therapy, fissure sealants, local anesthesia, rubber dam placement, amalgam and resin restorations on primary and young permanent teeth, stainless steel crowns, pulpal procedures for primary and young permanent teeth, extraction of primary teeth, space management appliances, procedures for treatment of oral trauma, employment of behavior management aids and the writing of prescriptions.

The goal of clinical instruction is preparation for dental practice. Clinical instruction should allow for a simple transition from the education setting to the practice setting.

- **Community**

Extramural experiences, based in the community, are valuable in helping the future practitioner become oriented to the health care system and sensitized to the health needs of the community, particularly the health needs of the underserved segments of the population. Sites for the community experiences may include private practices, public health departments, hospital and other care institutions. As a result of these extramural experiences the student dentist should be able to:

1. Analyze pediatric dental care delivery systems in terms of providers of service, consumers of service, organizational and administrative settings, types and scope of services, financing mechanisms, facilities and resources.

2. Identify the role of the dentist as a member of an interacting team of health professionals providing care for children.

3. Synthesize the sociologic and economic aspects of comprehensive patient care with the dental management of pediatric patients.

Sequencing Of Instruction

Instruction in pedodontics should begin as early in the dental curriculum as possible and continue until graduation. Coordination of classroom instruction with laboratory and clinical experiences is essential for effective learning. A close association of clinical instruction with classroom instruction is advisable. Extramural clinical experiences should be delayed until the student dentist achieves an appropriate level of clinical competency.

Instruction in pedodontics should be so sequenced with other courses to provide for effective and efficient learning. This requires coordination with basic and clinical science courses to insure adequate prerequisite knowledge. In addition consideration should be given to the order of presentation of the various topical areas within pedodontics.

Faculty and Staff

Full-time faculty who have completed post-doctoral educational programs in pedodontics provide the nucleus for instruction. Additional support for the instructional program may be obtained from part-time faculty from the local practice community. It is important for part-time faculty to be thoroughly oriented to the instructional objectives and strategies of the curriculum in order that the faculty may work in concert toward shared goals.

Several of the goals of the curriculum relate to attitudinal development. It is important that faculty serve as appropriate role-models of the attitudes desired in the graduating dentist. Faculty recruitment and selection should be accomplished with due consideration.

Generally, instruction in the various learning settings will be by the faculty of the Department of Pedodontics. However, the development of interdisciplinary and conjoined instruction utilizing faculty from various departmental areas is a valuable approach and should be incorporated where appropriate.

It is advisable to develop a blending of full-time and part-time faculty in instruction in the classroom, laboratory, clinic and extramural setting. Employment of both types of faculty will help insure continuity and relevance of instruction. Due to the unique nature of pedodontic clinical instruction a student-faculty ratio of 4-6:1 should be maintained in the clinic environment.

Dental assistants play an important role in the management of the pediatric patient. To teach the student the proper role of the dental auxiliary in managing the behavior of the child and to facilitate their care, it is important that dental assistants be available in the clinical teaching of pedodontics.

Evaluation

Evaluation of student performance should be based upon criteria that are communicated in writing to the student in advance. Continued monitoring of evaluations and the evaluation system must be maintained to insure that they are fair and equitable.

In addition to evaluating students, managers of predoctoral educational curricula should actively solicit evaluation of the program from students, graduates, peers, administrative superiors and educational specialists. The data thus acquired will provide for continuing improvement of predoctoral education in pedodontics.