

Written part selected reading list 2565

คณะกรรมการสอบสาขาทันตกรรมสำหรับเด็ก แนะนำหนังสือและวรรณกรรม เพื่อให้ผู้สอบมีทิศทางในการเตรียมตัวสอบ แต่ไม่ได้หมายความว่าข้อสอบจะจำกัดอยู่เฉพาะใน Selected reading list เท่านั้น

Selected readings สำหรับทุกหัวข้อ

1. AAPD: Clinical Practice Guidelines. Reference Manual (Current issue).
2. Dean JA. McDonald and Avery Dentistry for the Child and Adolescent, 11th ed. 2021
3. Nowak AJ. Pediatric Dentistry: Infancy Through Adolescence, 6th ed. 2019
4. บทความทางวิชาการที่เกี่ยวข้องกับสาขาทันตกรรมสำหรับเด็ก โดยราชวิทยาลัยทันตแพทย์แห่งประเทศไทยและทันตแพทย์สมาคมแห่งประเทศไทย

1. Caries management and prevention

Must know:

- Dental caries:
 - Etiology and predisposing factors of ECC and caries in children and adolescents
 - Caries risk assessment and management in preschoolers, schoolers and adolescents
 - Caries diagnosis and management concept
 - Caries status of Thai children
- Prevention
 - Fluoride: Mechanism, usage, effectiveness, chronic and acute toxicity
 - Non-fluoride agents: Mechanism, effectiveness, usage, safety
 - Mechanical and chemical plaque control
 - Diet, nutrition
 - Sealant
 - Anticipatory guidance

Reading list

1. กองทันตสาธารณสุข กรมอนามัยกระทรวงสาธารณสุข. รายงานผลการสำรวจสถานะสุขภาพช่องปากระดับประเทศครั้งล่าสุด.
2. แนวทางการใช้ฟลูออไรด์ในประเทศไทย (ฉบับล่าสุด)
3. บทสรุปสำหรับผู้บริหารเรื่องการปรับปริมาณสูงสุดของฟลูออไรด์ในยาสีฟันเพื่อเพิ่มประสิทธิภาพในการป้องกันฟันผุสำหรับประเทศไทย, ราชวิทยาลัยทันตแพทย์แห่งประเทศไทย, 2562
4. แนวทางการประเมินความเสี่ยงและการจัดการความเสี่ยงในการเกิดฟันผุในประเทศไทย (ฉบับล่าสุด)
5. Schwendicke F, Frencken J, Innes N. Caries excavation: evaluation of treating cavitated carious lesions, New York: Karger.

6. Pitts NB, Ismail AI, Martignon S, Ekstrand K, Douglas GVA, Longbottom C. ICCMS Guide for practitioners and educators. 2014.
7. Recent systematic reviews / articles on high quality journals เช่น Journal of Dental Research, International Journal of Pediatric Dentistry, Caries research etc. ตัวอย่าง recent articles หรือ systematic reviews ที่ควรอ่าน ในปี 2556-2557 (เปลี่ยนแปลงตาม evidence) เช่น
 - Divaris K. Predicting Dental Caries Outcomes in Children: A "Risky" Concept. J Dent Res. 2016;95(3):248-54.
 - Chaffee BW, Featherstone JD, Gansky SA, Cheng J, Zhan L. Caries Risk Assessment Item Importance: Risk Designation and Caries Status in Children under Age 6. JDR Clin Trans Res. 2016;1(2):131-42
 - Kumar S, Tadakamadla J, Johnson NW. Effect of Toothbrushing Frequency on Incidence and Increment of Dental Caries: A Systematic Review and Meta-Analysis. J Dent Res. 2016;95(11):1230-6
 - Hujoel PP, Cunha-Cruz J, Banting DW, Loesche WJ. Dental flossing and interproximal caries: a systematic review. J Dent Res. 2006 Apr;85(4):298-305. doi: 10.1177/154405910608500404.
 - Ammari MM, Soviero VM, da Silva Fidalgo TK, et al. Is non-cavitated proximal lesion sealing an effective method for caries control in primary and permanent teeth? A systematic review and meta-analysis. J Dent 2014;42:1217-27.
 - Slayton RL, Urquhart O, Araujo MWB, Fontana M, Guzmán-Armstrong S, Nascimento MM, Nový BB, Tinanoff N, Weyant RJ, Wolff MS, Young DA, Zero DT, Tampi MP, Pilcher L, Banfield L, Carrasco-Labra A. Evidence-based clinical practice guideline on nonrestorative treatments for carious lesions: A report from the American Dental Association. J Am Dent Assoc. 2018 Oct;149(10):837-849.e19. doi: 10.1016/j.adaj.2018.07.002.
 - Urquhart O, Tampi MP, Pilcher L, Slayton RL, Araujo MWB, Fontana M, Guzmán-Armstrong S, Nascimento MM, Nový BB, Tinanoff N, Weyant RJ, Wolff MS, Young DA, Zero DT, Brignardello-Petersen R, Banfield L, Parikh A, Joshi G, Carrasco-Labra A. Nonrestorative Treatments for Caries: Systematic Review and Network Meta-analysis. J Dent Res. 2019 Jan;98(1):14-26. doi: 10.1177/0022034518800014.
 - Walsh T, Worthington HV, Glenny AM, Marinho VC, Jeroncic A. Fluoride toothpastes of different concentrations for preventing dental caries. Cochrane Database Syst Rev. 2019;3(3):Cd007868.
 - Marinho VC, Chong LY, Worthington HV, Walsh T. Fluoride mouthrinses for preventing dental caries in children and adolescents. Cochrane Database Syst Rev 2016 Jul 29;7(7).
 - Takahashi R, Ota E, Hoshi K, Naito T, Toyoshima Y, Yuasa H, Mori R, Nango E. Fluoride supplementation (with tablets, drops, lozenges or chewing gum) in pregnant women for

preventing dental caries in the primary teeth of their children. Cochrane Database Syst Rev 2017;2017(10):CD011850.

- Lenzi TL, Montagner AF, Soares FZ, de Oliveira Rocha R. Are topical fluorides effective for treating incipient carious lesions?: A systematic review and meta-analysis. J Am Dent Assoc. 2016 Feb;147(2):84-91.e1. doi: 10.1016/j.adaj.2015.06.018.
- Schmoedel J, Gorseta K, Splieth CH, Juric H. How to Intervene in the Caries Process: Early Childhood Caries - A Systematic Review. Caries Res. 2020;54(2):102-112. doi: 10.1159/000504335.
- Horst JA, Ellenikiotis H, Milgrom PL. UCSF Protocol for Caries Arrest Using Silver Diamine Fluoride: Rationale, Indications and Consent. J Calif Dent Assoc. 2016;44(1):16-28.
- Crystal YO, Marghalani AA, Ureles SD, et al. Use of silver diamine fluoride for dental caries management in children and adolescents, including those with special health care needs. Pediatr Dent 2017;39(5):E135-E145.
- Wright JT, Tampi MP, Graham L, Estrich C, Crall JJ, Fontana M, Gillette EJ, Nový BB, Dhar V, Donly K, Hewlett ER, Quinonez RB, Chaffin J, Crespin M, lafolla T, Siegal MD, Carrasco-Labra A. Sealants for preventing and arresting pit-and-fissure occlusal caries in primary and permanent molars: A systematic review of randomized controlled trials-a report of the American Dental Association and the American Academy of Pediatric Dentistry. J Am Dent Assoc. 2016 Aug;147(8):631-645.e18. doi: 10.1016/j.adaj.2016.06.003. Erratum in: J Am Dent Assoc. 2017 Apr;148(4):210.
- Etc.

2. Physical and Psychological Development and Non Pharmacological Management

Must know:

- Principles of child development
- Gross motor, fine motor, cognitive, social and emotional, speech and language development of children
- Parents of pediatric patients
- Relationships among dentist-child-parent
- Identify and classification of children with un-cooperative behavior
- Factors influencing the cooperation of children in dental treatment
- Indications and contra-indication of non-pharmacological management techniques
- Informed consent

Selected readings:

1. Newton JT, Harrison V. The cognitive and social development of the child. Dent Update 2005;32:33-4, 37-8.
2. Gerald Z. Wright, Ari Kupietzky. Behavior management in dentistry for children 2nded, Willey Blackwell, p.1-91
3. Angulo AS. Child Development & Behavior. In: Hay Jr. WW, & Levin MJ, & Abzug MJ, & Bunik M, editors. Current Diagnosis & Treatment: Pediatrics. 25th ed. McGraw Hill; 2020. Chapter 3.
<https://accessmedicine.mhmedical.com/content.aspx?bookid=2815§ionid=244254193>

3. Pharmacological Management (Sedation and General Anesthesia)**Must know:**

- Definition and characteristics of each level of conscious sedation, Deep sedation, General anesthesia
- Objectives and indication of conscious sedation, Deep sedation, General anesthesia
- Risk and benefit
- Patient selection and preparations
- Preoperative instructions, cancellation
- Dietary precaution
- Recommended monitoring and dental procedure: discharge criteria
- Drugs used in oral sedation and their considerations
- Oral drug combination
- Adjunctive inhalation agent
- Inhalation sedation: indication, contraindication, technique

Should know:

- Physical examination
- Concepts of deep sedation
- Pharmacokinetics of sedation drugs
- Emergency preparation, Risk management
- Nasal administration
- Morbidity and mortality
- Documentation

Selected readings:

1. Coté CJ, Wilson S. American Academy of Pediatric Dentistry, American Academy of Pediatrics. Guidelines for monitoring and management of pediatric patients before, during, and after sedation for diagnostic and therapeutic procedures. Pediatr Dent 2019; 41(4):E26-E52.

2. Chompu-Inwai P, Simprasert S, Chuveera P, Nirunsittirat A, Sastraruji T, Srisuwan T. Effect of Nitrous Oxide on Pulpal Anesthesia: A Preliminary Study. *Anesth Prog.* 2018 Fall;65(3):156-161. doi: 10.2344/anpr-65-02-08. PMID: 30235437; PMCID: PMC6148698.
3. Attri JP, Sharan R, Makkar V, Gupta KK, Khetarpal R, Kataria AP. Conscious Sedation: Emerging trends in pediatric dentistry. *Anesth Essays Res.* 2017 Apr-Jun;11(2):277-281. doi: 10.4103/0259-1162.171458. PMID: 28663606; PMCID: PMC5490120.
4. Jain SA, Rath N, Thosar N, Baliga S. Midazolam use in pediatric dentistry: a review. *J Dent Anesth Pain Med.* 2020 Feb;20(1):1-8. doi: 10.17245/jdapm.2020.20.1.1. Epub 2020 Feb 28. Retraction in: *J Dent Anesth Pain Med.* 2020 Apr;20(2):105. PMID: 32158954; PMCID: PMC7054067.
5. Ashley PF, Chaudhary M, Lourenço-Matharu L. Sedation of children undergoing dental treatment. *Cochrane Database Syst Rev.* 2018 Dec 17;12(12):CD003877. doi: 10.1002/14651858.CD003877.pub5. PMID: 30566228; PMCID: PMC6517004.
6. Chi SI. Complications caused by nitrous oxide in dental sedation. *J Dent Anesth Pain Med.* 2018 Apr;18(2):71-78. doi: 10.17245/jdapm.2018.18.2.71. Epub 2018 Apr 27. PMID: 29744381; PMCID: PMC5932993.
7. British Dental Association. BDA Advice. Conscious Sedation. Available from: http://www.baos.org.uk/resources/BDAGuidanceconscious_sedation_-_nov_11.pdf.

4. Pain Control (Local Anesthesia and Analgesia)

Must know:

Local anesthesia for dental treatment, tooth extraction and minor oral surgery in pediatric patients, the dentist must have knowledge and competence in the following areas:

1. The indications, contraindications and precautions of these treatment
2. Analgesic drugs prescription, materials and tools or equipment usage
3. Behavior guidance and giving advice to children and parents before during and after treatment
4. Assessment and drawing the conclusions by integrate knowledge and various factors of the patient in order to make the right decision and appropriate treatment
5. The concept of treatment decision for;
 - 5.1 Local anesthetic technique in pediatric dental patients
 - 5.2 Maximum dose calculation of local anesthesia
 - 5.3 Local anesthesia toxicity and management
 - 5.4 Treatment of odontogenic infections in children
 - 5.5 Management of complication from tooth extraction such as broken roots
 - 5.6 Impacted teeth, Embedded teeth, Supernumerary teeth
 - 5.7 3rd Molar concept
 - 5.8 Pediatric Oral Pathology

Selected readings:

1. Malamed SF. Handbook of Local Anesthesia, 7thed., 2020, Chapter 10-16.

5. Radiology**Must know:**

1. Guidelines for Prescribing Dental Radiographs
2. Radiographic interpretation of normal anatomy & pathology
3. Commonly used radiographic techniques
 - 3.1 Intra oral
 - 3.1.1 Bite-Wing Techniques
 - 3.1.2 Bisecting Techniques
 - 3.1.3 Paralleling Techniques
 - 3.1.4 Localization Techniques
 - 3.2 Extra oral – Panoramic Radiography

Should know:

1. Radiation safety and protection
2. Quality control of dental radiographs
3. Infection control in dental radiographic procedures

Selected readings:

1. Mallya S, Lam E. Digital imaging. In: White HC, Pharoah MJ, editor. Oral radiology Principles and Interpretation. Latest edition. St. Louis: Elsevier Mosby.

6. Restorations**Must know:**

- Oral diagnosis and comprehensive restorative treatment planning
- Restorative material selection in primary dentition
- Clinical consideration in pediatric restorative dentistry
- Minimally Invasive Dentistry

Should know:

Updated in restorative materials and techniques

Selected readings:

1. Fejerskov O, Kidd E. Dental caries: The disease and its clinical management (Operative intervention). 2nded.
2. Ricketts D, Lamont T, Innes NP, Kidd E, Clarkson JE. Operative caries management in adults and children (Review). Cochrane Database Syst Rev. 2013; 3: CD003808

3. Waggoner W. Restorative dentistry for the primary dentition. In Casamassino PS, Fields, HW, Mctigue DJ, Nowak AJ. Pediatric Dentistry Infancy through Adolescence. 5th ed. Missouri:Elsevier Saunders;2013. p. 304-332.
4. การวินิจฉัยโรคฟันผุและการจัดการ. ทันตแพทยสมาคมแห่งประเทศไทยน2561
(<https://www.thaidental.or.th/main/download/upload/upload-20190213213456.pdf>)
5. Innes NP, Frencken JE, Bjørndal L, Maltz M, Manton DJ, Ricketts D, Van Landuyt K, Banerjee A, Campus G, Doméjean S, Fontana M, Leal S, Lo E, Machiulskiene V, Schulte A, Splieth C, Zandona A, Schwendicke F. Managing Carious Lesions: Consensus Recommendations on Terminology. Adv Dent Res. 2016 May;28(2):49-57.
6. Amend S, Seremidi K, Kloukos D, Bekes K, Frankenberger R, Gizani S, Krämer N. Clinical Effectiveness of Restorative Materials for the Restoration of Carious Primary Teeth: An Umbrella Review. Journal of Clinical Medicine. 2022 Jan;11(12):3490.
7. Dias AGA, Magno MB, Delbem ACB, Cunha RF, Maia LC, Pessan JP. Clinical performance of glass ionomer cement and composite resin in Class II restorations in primary teeth: A systematic review and meta-analysis. J Dent. 2018 Jun;73:1-13.

7. Pulp Treatment in the Primary and Young Permanent Dentition

Must know:

- Objectives of pulp therapy in primary and permanent teeth in children
- Types of pulp therapy in primary teeth
- Types of pulp therapy in permanent teeth in children
- Indications for pulp therapy in primary teeth: Indirect pulp treatment, Direct pulp treatment, Pulpotomy, Pulpectomy
- Indications for pulp therapy in permanent teeth: Indirect pulp treatment, Direct pulp treatment, Partial pulpotomy, Apexogenesis, Apexification
- Materials, techniques, and medicaments commonly used in pulp therapy for primary and permanent teeth
- Procedures for various types of pulp therapy in primary and permanent teeth
- Desired treatment outcomes and complications

Should know:

- Materials, techniques, and medicaments used in experimental or emerging pulp therapy approaches in primary and permanent teeth

Selected readings:

1. Fuks AB, Kupietzky A, Guelmann M. Pulp therapy for the primary dentition. In: Nowak A, Christensen JR, Mabry TR, Townsend JA, Wells MH editor. *Pediatric Dentistry: Infancy through Adolescence*. 6th ed. Philadelphia: Elsevier; 2019. p. 329-51.
2. Waterhouse PJ, Whitworth JM. Pediatric endodontics: Endodontic treatment for the primary and young permanent dentition. In: Hargreaves KM, Berman LH, editors. *Cohen's Pathways of the Pulp* 11th ed. St. Louis: Elsevier; 2016. p. e1-e44.
3. Dean JA, Sanders BJ. Treatment of deep caries, vital pulp exposure, and nonvital teeth. In: Dean JA, editor. *McDonald and Avery's Dentistry for the Child and Adolescent*. 11th ed. St. Louis: Elsevier; 2022. p. 266-85.
4. Dhar V, Marghalani AA, Crystal YO, Kumar A, Ritwik P, Tulunoglu O, Graham L. Use of vital pulp therapies in primary teeth with deep caries lesions. *Pediatr Dent*. 2017;39(5):146E-59E.
5. Coll JA, Seale NS, Vargas K, Marghalani AA, Al Shamali S, Graham L. Primary tooth vital pulp therapy: a systematic review and meta-analysis. *Pediatr Dent*. 2017;39(1):16-27.
6. Gizani S, Seremidi K, Stratigaki E, Tong HJ, Duggal M, Kloukos D. Vital pulp therapy in primary teeth with deep caries: an umbrella review. *Pediatr Dent*. 2021;43(6):426-37.
7. Smail-Faugeron V, Glenny AM, Courson F, Durieux P, Muller-Bolla M, Chabouis HF. Pulp treatment for extensive decay in primary teeth. *Cochrane Database Syst Rev*. 2018(5).
8. Coll JA, Vargas K, Marghalani AA, Chen CY, AlShamali S, Dhar V, et al. A systematic review and meta-analysis of nonvital pulp therapy for primary teeth. *Pediatr Dent*. 2020;42(4):256-61.
9. Coll JA, Dhar V, Vargas K, Chen CY, Crystal YO, AlShamali S, et al. Use of non-vital pulp therapies in primary teeth. *Pediatr Dent*. 2020;42(5):337-49.
10. Coll JA. Indirect pulp treatment, direct pulp capping, and stepwise caries excavation. In: Fuks AB, Peretz B, editors. *Pediatric endodontics. Current concepts in pulp therapy for primary and young permanent teeth*. Switzerland: Springer International Publishing; 2016. p.37-50.
11. Chompu-inwai P, Boonsongsawat K, Sastraruji T, Sophasri T, Mankaen S, Nondon S, Tunlek S, Katwong S. Three incomplete caries removal techniques compared over two years in primary molars with asymptomatic deep caries or reversible pulpitis. *Pediatr Dent*. 2015 Sep-Oct;37(5):41-8. PMID: 26531075.
12. Nakornchai S, Banditsing P, Visetratana N. Clinical evaluation of 3Mix and Vitapex as treatment options for pulpally involved primary molars. *Int J Paediatr Dent*. 2010;20(3):214-21. doi: 10.1111/j.1365-263X.2010.01044.x. PMID: 20409203.
13. Trairatvorakul C, Detsomboonrat P. Success rates of a mixture of ciprofloxacin, metronidazole, and minocycline antibiotics used in the non-instrumentation endodontic treatment of mandibular primary molars with carious pulpal involvement. *Int J Paediatr Dent*. 2012;22(3):217-27. doi: 10.1111/j.1365-263X.2011.01181.x. Epub 2011 Sep 23. PMID: 21951271.

8. Management of medically compromised children and special patients (Special Health Care Needs Patients)

Persons with a physical, developmental, mental, sensory, behavioral, cognitive, or emotional impairment or limiting condition that requires medical management, health care intervention, and/ or use of specialized services or programs and their oral health care is beyond that considered routine and requires specialized knowledge, increased awareness and attention, and accommodation.

Must know:

- Dental management (Implications of SHCN for delivery of oral health care), Oral manifestation, Oral complications and Therapy
- Dental management in multiple disabilities and complex medically compromised patient

Should know:

- Common findings and general medical considerations of the following common conditions in children:
 - 1) Congenital cardiovascular defects
 - 2) Common infectious disease in children
 - 3) HIV/ AIDS
 - 4) Bleeding disorders
 - 5) Pediatric cancer
 - 6) Organ and Bone marrow transplanted patients
 - 7) Endocrine disorders
 - 8) Renal diseases
 - 9) Respiratory diseases/ disorders
 - 10) Neurological disorders
 - 11) Autoimmune diseases
 - 12) Hepatic diseases
 - 13) Acquired cardiovascular diseases
 - 14) Childhood Obesity
 - 15) Metabolic diseases
 - 16) Contemporary endemic diseases
 - 17) Learning disorders: Pervasive developmental disorders, Autism, ADD/ ADHD
 - 18) Developmental delayed
 - 19) Visual impairment/ Blind
 - 20) Hearing impairment /Deaf

Selected readings:

1. General concepts and knowledge of the conditions and widely accepted practice guidelines if available eg: Current and relevant AAPD clinical practice guidelines.

2. Current rationales, guideline and recommendation for Prevention of Infective Endocarditis related with dental procedures by American Heart Association

9. Infection control and Occupational Safety and Hazard in Pediatric Dentistry

Must know:

Infection control principles and regulations and occupational hazards in dentistry including exposure to infections and radiation, allergic reactions, and physical hazards like musculoskeletal complications.

Selected readings:

1. คณะทำงานศึกษาและพัฒนามาตรฐานด้านความปลอดภัยทางทันตกรรม คณะอนุกรรมการส่งเสริมจรรยาบรรณของทันตแพทย์คุ้มครองผู้บริโภคทางทันตกรรม และพัฒนาระบบคุณภาพบริการและคณะกรรมการทันตแพทยสภา วาระที่ 7 (พ.ศ. 2556-2559). แนวทางปฏิบัติเพื่อความปลอดภัยทางทันตกรรม 2558 (Dental Safety Goals and Guidelines 2015)
2. แนวทางปฏิบัติ การรักษาทางทันตกรรมในสถานการณ์การระบาดของ COVID-19. กรมการแพทย์ กระทรวงสาธารณสุข. 14 พฤษภาคม 2563

10. Emergency management

Must Know:

Management of medical emergency in child dental patient

Selected readings:

1. Cooke M and Brewer RJ. Medical emergencies. In: Nowak A, Christensen JR, Mabry TR, Townsend JA, Wells MH, editors. Pediatric Dentistry: Infancy through adolescence. 6th ed. Elsevier; 2019. p. 142-58.

11. Oral Medicine, Oral Patholgy and Pharmacology

Must know:

- Characteristic clinical and radiographic finding, treatment and prognosis, differential diagnosis of common oral lesions and soft tissue anomalies in children which include:
 - 1) Developmental and variations
 - 2) Benign mucosal and submucosal lesions
 - 3) Cyst and pseudocysts of soft tissue
 - 4) Cyst and neoplasm of bone
 - 5) Inflammatory lesion of bone
 - 6) Malignancies of soft tissue and bone
- Indications, contraindications, properties, side effects and safe use of analgesics and antibiotics commonly used in children

Should know:

- Age group affected and gender of common oral lesions and soft tissue anomalies in children

Selected readings:

1. Hall RK. Pediatric Orofacial Medicine and Pathology. 1st ed. London: Chapman&Hall Medical, 1994.
2. Yagiela JA, Dowd FJ, Johnson BS, Mariotti AJ, Neidle EA. Pharmacology and Therapeutics for Dentistry. 6th ed. St.Louis: Elsevier,2011. Chapter 20, 21 and 39.
3. Neville BW, Damm DD, Allen CM, Chi AC. Oral and Maxillo Facial Pathology. 4th ed., St Louise: Elsevier; 2016.

12. Periodontal Diseases in Children and Adolescents**Must know:**

- Periodontal problems in children and adolescents (etiology, diagnosis and treatment) เช่น
 - 1) Acute gingivitis
 - 2) Plaque-induced gingival disease
 - 3) Gingival enlargement
 - 4) Mucogingival problems
 - 5) Periodontitis
 - 6) Periodontitis as a manifestation of systemic diseases

Selected readings:

1. Heasman PA, Waterhouse PJ. Periodontal diseases in children. In: Welbury R, Duggal M, Hosey MT, editors. Paediatric Dentistry. 5thed. OUP Oxford: Oxford; 2018.

13. Growth and Development and Occlusion**13.1 Development of Occlusion**

1. Sequence of tooth formation and eruption
2. Developing of occlusion
3. Guiding to normal occlusion

13.2 Preventive and interceptive orthodontics

1. Etiology of malocclusion
2. Orthodontic examination, space and cephalometric analysis
3. Orthodontic diagnosis and treatment plan
4. Space maintainer
5. Space management in the transitional dentition
6. Management of deleterious oral habits
7. Management of inter and intra-arch problems
8. Growth modification
9. Biologic basis of orthodontic therapy

10. Removable orthodontic appliance: concept, design, mechanic and limitation.

11. TMJ functional and dysfunction

Selected readings:

1. Proffit WR, Fields HW, Larson BE, Sarver DM. Contemporary Orthodontics. (recent edition), St. Louis: Elsevier.
2. Graber LW, Vanarsdall RL, Vig KWL, & Huang GJ. Orthodontics: Current Principles and Techniques. St. Louis: Elsevier Health Sciences.

14. Craniofacial growth and development

Must know:

- Embryogenesis of the orofacial and pharyngeal regions
- Development and growth of craniofacial skeletal structures including calvaria, cranial base, facial skeleton, maxilla, mandible, the palate, temporomandibular joint and soft tissues including tongue, salivary glands, and muscle
- Odontogenesis

Suggested readings:

1. Sperber GH and Sperber SM. CRANIOFACIAL EMBRYOGENETICS AND DEVELOPMENT, THIRD EDITION 2018 ISBN: 9781607952824

15. Syndrome of head and neck

Must know:

- Etiology, oral manifestation, dental manifestation, and medical consideration of the common syndrome such as Down syndrome and other common chromosomal defect, ectodermal dysplasia, common syndrome involve cleft lip and/or cleft palate.

Should know:

- Craniosynostosis
- First brachial arch syndrome
- Amelogenesis/ dentinogenesis imperfecta
- Syndrome with Unusual Dental Findings
- Other common syndromes

Selected readings:

1. Proffit WR. Contemporary Orthodontics. 5th ed. Mosby-Year Book, Inc. 2012. P.269-274, 396-397
2. Enlow DH, Hans MG: Essentials of Facial Growth. Philadelphia. 2nded, WB Saunders, 1966

16. Dental Trauma

16.1 Dental Trauma in Primary Dentition

Must know:

- History and examination
- Soft tissue management
- Classification and diagnosis
- Treatment and Pathologic sequelae of trauma to the teeth for Each Classification
- Prognosis and follow up
- Complication to developing permanent teeth
- Information and instruction for parents

Should know:

- Prevalence and Incidence
- Referral Criteria to Physician

16.2 Dental Trauma in Permanent Dentition

Must know:

- History and examination
- Soft tissue management
- Classification & Diagnosis
- Pathologic sequelae of trauma to the teeth
- Treatment of dental trauma in permanent dentition
- Vital Pulp Therapy: Requirements for Success
- Different Treatment for Teeth with Open and Closed Apex
- Different Prognosis for Teeth with Open and Closed Apex
- Prognosis & Follow up
- Splint

Should know:

- Prevalence and Incidence
- Referral Criteria to Physician

Selected readings:

1. Levin L, Day P, Hicks L, O'Connell A, Fouad AF, Bourguignon C, Abbott PV. International Association of Dental Traumatology Guidelines for the Management of Traumatic Dental Injuries: General Introduction. Dent Traumatol 2020; 36: 309–313. DOI:10.1111/edt.12574
2. International Association of Dental Traumatology – DENTAL TRAUMA GUIDELINES (Revised 2012)
 - Section 1: Fractures and luxations of permanent teeth
 - Section 2: Avulsion of permanent teeth
 - Section 3: Traumatic injuries to primary teeth

3. Sigurdsson A, Trope M, Chivian N. The Role of Endodontics After Dental Traumatic Injuries. In: Hargreaves KM, Cohen S, editors. Pathways of the Pulp. 10th ed. St. Louis: Mosby Elsevier; 2011. p. 620-54.
4. Bourguignon C, Cohenca N, Lauridsen E, Flores MT, O'Connell A, Day P, Tsilingaridis G, Abbott PV, Fouad AF, Hicks L, Andreasen JO, Cehreli ZC, Harlamb S, Kahler B, Oginni A, Semper M, Levin L. International Association of Dental Traumatology Guidelines for the Management of Traumatic Dental Injuries: 1. Fractures and Luxations. Dent Traumatol 2020; 36: 314–330. DOI:10.1111/edt.12578
5. Fouad AF, Abbott PV, Tsilingaridis G, Cohenca N, Lauridsen E, Bourguignon C, O'Connell A, Flores MT, Day P, Hicks L, Andreasen JO, Cehreli ZC, Harlamb S, Kahler B, Oginni A, Semper M, Levin L. International Association of Dental Traumatology Guidelines for the Management of Traumatic Dental Injuries: 2. Avulsion of Permanent Teeth. Dent Traumatol 2020; 36: 331–342. DOI:10.1111/edt.12573
6. Day P, Flores MT, O'Connell A, Abbott PV, Tsilingaridis G, Fouad AF, Cohenca N, Lauridsen E, Bourguignon C, Hicks L, Andreasen JO, Cehreli ZC, Harlamb S, Kahler B, Oginni A, Semper M, Levin L. International Association of Dental Traumatology Guidelines for the Management of Traumatic Dental Injuries: 3. Injuries in the Primary Dentition. Dent Traumatol 2020; 36: 343–359. DOI:10.1111/edt.12576
7. Kahler B, Hu J-Y, Marriot-Smith CS, Heithersay GS. Splinting of teeth following trauma: A review and a new splinting recommendation. Aust Dent J 2016; 61 Suppl 1: 59–73.
8. The Role of Endodontics After Dental Traumatic Injuries. In: Louis H. Berman, Kenneth M. Hargreaves, editors. Cohen's pathway of the pulp. 12th ed. St. Louis: Elsevier; 2020. Chapter 21.

17. Ethic and Legal Consideration/ Risk Management

Must know:

- Methods for preventing harm and injury in pediatric dentistry
- How to be careful when performing dental treatments for children, know the correct solution in the event of an accident or harm.
- Laws related to dental services

Selected readings:

1. พรบ. วิธีพิจารณาคดีผู้บริโภค (พ.ศ.2551) <http://www. /ราชกิจจานุเบกษา>
2. พรบ.วิธีพิจารณาคดีผู้บริโภคพรบ. ความรับผิดทางละเมิดของเจ้าหน้าที่ (พ.ศ.2539)
3. ประกาศเพิ่มเติม หลักเกณฑ์การชดใช้ค่าสินไหมทดแทนจากเจ้าหน้าที่ผู้กระทำละเมิด ของกระทรวงการคลัง กค.0406.6/ว.121 ลงวันที่ 26 ธันวาคม พ.ศ. 2545
4. พรบ.สถานพยาบาลพ.ศ.2541
5. พรบ.วิชาชีพทันตกรรม 2537
6. พรบ.คุ้มครองข้อมูลส่วนบุคคล พ.ศ.2562