



SAUDI BOARD RESIDENCY TRAINING PROGRAM
ORTHODONTICS AND DENTOFACIAL ORTHOPEDICS

Final Examination

Exam Format:

A Saudi board final specialty written examination shall consist of two papers each with 100-125 single best answer Multiple Choice Questions (MCQs). Up to 10% unscored MSQs can be added for calibration purposes.

Passing Score:

The passing score is 70%. However, if the percentage of candidates passing the examination before final approval is less than 70%, the passing score must be lowered by one mark at a time aiming at achieving 70% passing rate or 65% passing score whichever comes first. Under no circumstances can the passing score be reduced below 65%.





Suggested References:

This reading list is generated to provide the third-year residents in the Saudi Board of Orthodontics and Dentofacial Orthopedic with a source of knowledge in preparation for the didactic component of the Final Examination. It is intended to remind the residents with several key-articles in orthodontics and to give them a broad perspective on selected orthodontic topics. The Examination Committee of the SBO-DO would like to emphasize that this list should not serve as a single preparatory source for the Final Examination and other literature and textbooks are recommended in addition to the suggested references. Questions of the Final Examination may or may not be based on the suggested reading list and no single reference in the suggested reading list contains the indisputable answer to any of the questions.





TEXTBOOKS:

1. Proffit WR. CONTEMPORARY ORTHODONTICS. 6th edition, St. Louis, MO, USA, Mosby, Inc., 2018.
2. Radiographic cephalometry from basics to 3-D imaging, Alexander Jacobson, Richard Jacobson , 2nd Edition.
3. Orthodontics Current principals and techniques, Graber, Vanarsdall, and Vig, 5th Edition.
4. Several articles as illustrated in the blueprint “attached examples”.

LITERATURE:

Growth and development:

1. Thilander B. Basic mechanisms in craniofacial growth. Acta Odontol Scand 53(3):144-151, 1995.
2. Bjork, A. Prediction of Mandibular Rotation. Am. J. Orthod. 55: 585 599,1969.
3. Dager MM, McNamara JA, Baccetti T, Franchi L. Aging in the craniofacial complex. Angle Orthod 78(3):440-444, 2008.
4. Pecora NG, Baccetti T, McNamara JA Jr. The aging craniofacial complex: a longitudinal cephalometric study from late adolescence to late adulthood. Am J Orthod Dentofacial Orthop 134(4):496-505, 2008.
5. Ranly DM. Craniofacial growth. Dent Clin North Am 44(3):457-470, 2010.
6. Mossey PA. The heritability of malocclusion: part 2. The influence of genetics in malocclusion. Br J Orthod 26(3):195-203, 1999.





7. Derya Germec Cakan, Feyza Ulkur, and Tulin (Uğur) Taner The genetic basis of facial skeletal characteristics and its relation with orthodontics Eur J Dent. 2012 July; 6(3): 340–345.
8. Wishney, M., Darendeliler, M., & Dalci, O. (2018). Craniofacial growth studies in orthodontic research-lessons, considerations and controversies. Australasian Orthodontic Journal, 34(1), 61
9. Thilander, B. (2017). Craniofacial growth and development. Essential Orthodontics, 30, 25. “BOOK”
10. Wishney, M., Darendeliler, M., & Dalci, O. (2018). Craniofacial growth studies in orthodontic research-lessons, considerations and controversies. Australasian Orthodontic Journal, 34(1), 61.

Orthodontic Diagnosis and Treatment Planning:

1. Doppel DM, Damon WM, Joondeph DR, Little RM. An investigation of maxillary superimposition techniques using metallic implants. Am J Orthod Dentofacial Orthop. 1994 Feb;105(2):161-8.
2. Nielsen IL. Maxillary superimposition: a comparison of three methods for cephalometric evaluation of growth and treatment change. Am J Orthod Dentofacial Orthop. 1989 May;95(5):422-31.
3. Naini FB, Gill DS. Facial aesthetics: 2. Clinical assessment. Dent Update 35(3):159-162, 164-166, 169-170, 2008.
4. CBCT SPECIAL ISSUE: REVIEW ARTICLE CBCT in orthodontics: assessment of treatment outcomes and indications for its use S D Kapila and J M Nervina. Dentomaxillofacial Radiology (2015) 44, 20140282, 1-19.
5. Bishara SE, Burkey PS, Kharouf JG. Dental and facial asymmetries: a review. Angle Orthod 64(2):89-98, 1994.





6. Charles J. Burstone. Diagnosis and treatment planning of patients with asymmetries. Semin Orthod 4(3):153-164, 1998.
7. Janson, G., de Lima, K. J. R. S., Woodside, D. G., Metaxas, A., de Freitas, M. R., & Henriques, J. F. C. (2007). Class II subdivision malocclusion types and evaluation of their asymmetries. American journal of orthodontics and dentofacial orthopedics, 131(1), 57-66.
8. Nguyen, T., Cevdanes, L., Franchi, L., Ruellas, A., & Jackson, T. (2018). Three-dimensional mandibular regional superimposition in growing patients. American Journal of Orthodontics and Dentofacial Orthopedics, 153(5), 747-754.
9. Kouvelis G, Dritsas K, Doulis I, Kloukos D, Gkantidis N. Effect of orthodontic treatment with 4 premolar extractions compared with nonextraction treatment on the vertical dimension of the face: A systematic review. Am J Orthod Dentofacial Orthop. 2018 Aug;154(2):175-187.





Growth Modification:

1. Cozza P, Baccetti T, Franchi L, De Toffol L, McNamara JA. Mandibular changes produced by functional appliances in Class II malocclusion: a systematic review. Am J Orthod Dentofacial Orthop 129(5):599, e1-12, 2006.
2. Brosh T, Portal S, Sarne O, Vardimon AD. Unequal outer and inner bow configurations: comparing 2 asymmetric headgear systems. Am J Orthod Dentofacial Orthop 128(1):68-75, 2005.
3. Mandall, N., Cousley, R., DiBiase, A., Dyer, F., Littlewood, S., Mattick, R., & Shargill, I. (2016). Early class III protraction facemask treatment reduces the need for orthognathic surgery: a multi-centre, two-arm parallel randomized, controlled trial. Journal of orthodontics, 43(3), 164-175.
4. Treatment effects of the Carrieret Motion 3De appliance for the correction of Class II malocclusion in adolescents Hera Kim-Bermana ; James A. McNamara Jr.b ; Joel P. Lintsc ; Craig McMullend ; Lorenzo Franchie. Angle Orthodontist, Vol 89, No 6, 2019, 839-846

Treatment Modalities:

1. Marshall SD, Southard KA, Southard TE. Early Transverse Treatment. Semin Orthod 11(3):130-139, 2005.
2. Eustáquio A. Araújo. Diagnostic Protocol In Cases Of Congenitally Missing Maxillary Lateral Incisors. World J Orthod 2006;7:376–388.





3. Bills DA, Handelman CS, BeGole EA. Bimaxillary dentoalveolar protrusion: traits and orthodontic correction. Angle Orthod 75(3):333-339, 2005.
4. Kokich VG. Surgical and orthodontic management of impacted maxillary canines. Am J Orthod Dentofacial Orthop 126:278-283, 2004.
5. Andrew Schmidt, Vincent Kokich, Peridontal response to early uncovering autonomous eruption, and orthodontic alignment of palatally impacted maxillary canines. Am J Orthod Dentofacial Orthop 2007; 131:449-55.





6. Elliott M. Moskowitz, Ronniette C. Garcia, The management of palatally displaced maxillary canines: Considerations and challenges. Semin Orthod 2014;20:46-58.
7. Vaden JL, Pearson LE. Diagnosis of the vertical dimension. Semin Orthod 8(3):120-129, 2002.
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9. Budi Kusnoto and BernardJ. Schneider. Control of the Vertical Dimension. Semin Orthod 2000;6:33-42.
10. Thomas J Cangialosi, Skeletal Morphologic features of anterior open bite. Am J Orthod Dentofacial Orthop 1984; 85:28-36.
11. Lagravere MO, Major PW, Flores-Mir C. Long-term dental arch changes after rapid maxillary expansion treatment: a systematic review. Angle Orthod 75(2):155-161, 2005.
12. Ghoneima A, Abdel-Fattah E, Hartsfield J, et al: Effects of rapid maxillary expansion on the cranial and circummaxillary sutures. American Journal of Orthodontics and Dentofacial Orthopedics 140(4):510-519, October 2011.
13. Suri L, Taneja P. Surgically assisted rapid palatal expansion: a literature review. Am J Orthod Dentofacial Orthop. 2008 Feb;133(2):290-302.
14. Andrews LF. The six keys to normal occlusion. Am J Orthod Dentofacial Orthop 62(3):296-309, 1972.
15. Rinchuse DJ, Kandasamy S, Sciote J. A contemporary and evidence-based view of canine protected occlusion. Am J Orthod Dentofacial Orthop. 2007 Jul;132(1):90-102.





16. Donald J. Rinchuse, and Jeffrey T. McMinn, Summary of evidence-based systematic reviews of temporomandibular disorders. Am J Orthod Dentofacial Orthop 2006;130:715-20
17. Jeffrey P. Okeson. Evolution of occlusion and temporomandibular disorder in orthodontics: Past, present, and future. Am J Orthod Dentofacial Orthop 2015;147:S216-23)
18. Tsolakis AI, Kalavritinos M, Bitsanis E, et al: Reliability of different radiographic methods for the localization of displaced maxillary canines. American Journal of Orthodontics and Dentofacial Orthopedics 153(2):308-314, February 2018.
19. Sadowsky, C., & Polson, A. M. (1984). Temporomandibular disorders and functional occlusion after orthodontic treatment: results of two long-term studies. American journal of orthodontics, 86(5), 386-390.
20. Age-related changes in the effect of rapid maxillary expansion on the position of labially impacted maxillary canines: A case-control study Momoko Harada-Karashima,^a Yoshihito Ishihara,^b Hiroshi Kamioka,^c and Ryuzo Kanomid Himeji and Okayama. American Journal of Orthodontics and Dentofacial Orthopedics March 2021, Vol 159, Issue 3, 305-311.
21. Predisposing factors for severe incisor root resorption associated with impacted maxillary canines Stella Chaushu,^a Karolina Kaczor-Urbanowicz,^b Małgorzata Zadurska,^c and Adrian Beckerd Jerusalem, Israel, and Warsaw. American Journal of Orthodontics and Dentofacial Orthopedics January 2015 , Vol 147 , Issue 1, 52-60.





Retention and Stability:

1. Janson, G., Araki, J., Estelita, S., & Camardella, L. T. (2014). Stability of class II subdivision malocclusion treatment with 3 and 4 premolar extractions. *Progress in orthodontics*, 15(1), 67.
1. Zachrisson BU. Important aspects of long-term stability. *J Clin Orthod* 31(9):562-583, 1997.
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4. Bishara SE. Third molars: a dilemma! Or is it? *Am J Orthod Dentofacial Orthop* 115(6):628-633, 1999.

Comprehensive Treatment in Adolescents and Preadolescent:

1. Pinto, A. S., Buschang, P. H., Throckmorton, G. S., & Chen, P. (2001). Morphological and positional asymmetries of young children with functional unilateral posterior crossbite. *American Journal of Orthodontics and Dentofacial Orthopedics*, 120(5), 513-520.
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4. Mucedero, M., Fusaroli, D., Franchi, L., Pavoni, C., Cozza, P., & Lione, R. (2018). Long-term evaluation of rapid maxillary expansion and bite-block therapy in open bite growing subjects: A controlled clinical study. *The Angle Orthodontist*

Adult Orthodontics:

1. Sabri R. Orthodontic objectives in orthognathic surgery: state of the art today. *World J Orthod* 7(2):177-191, 2006.
2. Bailey LJ, Cevidanes LH, Proffit WR. Stability and predictability of orthognathic surgery. *Am J Orthod Dentofacial Orthop* 126(3):273- 277, 2004.
3. Larry M. Wolford, Spiro C. Karras, and Pushkar Mehra, Considerations for orthognathic surgery during growth, Part 1: Mandibular deformities. *Am J Orthod Dentofacial Orthop* 2001;119:95-101.
4. Hamilton RS, Gutmann JL. Endodontic-orthodontic relationships: a review of integrated treatment planning challenges. *Int Endod J* 32(5):343-360, 1999. Need updated in Endo-Ortho relationship article.
5. Kokich VG, Spear FM. Guidelines for managing the orthodontic-restorative patients. *Semin Orthod* 3(1):3-20, 1997.
6. Mathews DP, Kokich VG. Managing treatment for the orthodontic patient with periodontal problems. *Semin Orthod* 3(1):21-38, 1997.
7. Orthodontic extrusion for implant site development revisited: A new classification determined by anatomy and clinical outcomes Mark N. Hochman, DDS,1 Stephen J. Chu, DMD, MSD, CDT,2 and Dennis P. Tarnow, DDS3. *Seminars in Orthodontics*, Vol 20, No 3 (September), 2014: pp 208–227





Clinical Orthodontics:

1. Theodosia Bartzela, Jens C. Türp, Edith Motschall, and Jaap C. Maltha. Medication effects on the rate of orthodontic tooth movement: A systematic literature review. Am J Orthod Dentofacial Orthop 2009;135:16-26.
2. Kolokitha OE, Chatzistavrou E. Allergic reactions to nickel-containing orthodontic appliances: clinical signs and treatment alternatives. World J Orthod. 2008 Winter;9(4):399-406.
3. Kindelan SA, Day PF, Kindelan JD, Spencer JR, Duggal MS. Dental trauma: an overview of its influence on the management of orthodontic treatment. Part 1. J Orthod. 2008 Jun;35(2):68-78.
4. Cecilia Bourguignon, Nestor Cohenca, Eva Lauridsen³, Marie Therese Flores, Anne C. O'Connell, Peter F. Day, Georgios Tsilingaridis, Paul V. Abbott, Ashraf F. Fouad, Lamar Hicks, Jens Ove Andreasen, Zafer C. Cehreli, Stephen Harlamb, Bill Kahler, Adeleke Oginni, Marc Semper, Liran Levin. International Association of Dental Traumatology guidelines for the management of traumatic dental injuries: 1. Fractures and luxations. Dental Traumatology. 2020;36:314–330
5. Monty Singh Duggal, Jay Kindelan, Hani Nazzal. Upper incisor trauma and the orthodontic patient—Principles of management. Semin Orthod 2015; 21:59–7
6. Patel A, Burden DJ, Sandler J. Medical disorders and orthodontics. J Orthod. 2009 Dec;36 Suppl:1-21. Review
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9. Obstructive sleep apnea and orthodontics: An American Association of Orthodontists White Paper Rolf G. Behrents,a,b Anita Valanju Shelgikar,c R. Scott Conley,d Carlos Flores-Mir,e Mark Hans,f,g Mitchell Levine,h James A. McNamara,i,j Juan Martin Palomo,k Benjamin Pliska,l,m John W. Stockstill,n John Wise,o Sean Murphy,p Norman J. Nagel,q and Jackie Hittner. American Journal of Orthodontics and Dentofacial Orthopedics July 2019, Vol 156, Issue 1, 13-28

Dentofacial Deformity:

1. Thornton J, Nimer S, Howard P. The incidence, classification, etiology, and embryology of oral clefts. Semin Orthod 2(3):162-168, 1996.
2. Evans CA. Orthodontic treatment for patients with clefts. Clin Plast Surg 31(2):271-290, 2004.
3. Katherine W. L. Vig and Ana M. Mercado. Overview of orthodontic care for children with cleft lip and palate, 1915-2015, Am J Orthod Dentofacial Orthop 2015;148:543-56).
4. Bergland, O., Semb, G., & Abyholm, F. E. (1986). Elimination of the residual alveolar cleft by secondary bone grafting and subsequent orthodontic treatment. The Cleft palate journal, 23(3), 175-205.

Biomechanics and Contemporary Orthodontic Appliance:

1. Isaacson RJ, Lindauer SJ, Davidovitch M. The ground rules for arch wire design. Semin Orthod 1(1):3-11, 1995.
2. Charles J. Burstone. Biomechanics of deep overbite correction. Semin Orthod 7(1):26-33, 2001.





3. Edsard van Steenberg, and Ravindra Nanda, Biomechanics of Orthodontic correction of dental asymmetries, Am J Orthod Dentoface Orthop, 1995;107:618- 24
4. Park HS, Jeong SH, Kwon OW. Factors affecting the clinical success of screw implants used as orthodontic anchorage. Am J Orthod Dentofacial Orthop. 2006 Jul;130(1):18-25.
5. Yan Chen, Hee Moon Kyung, Wen Ting Zhao, and Won Jae Yu, Critical factors for the success of orthodontic mini-implants: A systematic review. Am J Orthod Dentofacial Orthop 2009;135:284-91
6. Murilo Matiasa, Carlos Flores-Mirb, Márcio Rodrigues de Almeida, Bruno da Silva Vieirad, Karina Maria Salvatore de Freitas, Daniela Calabrese Nunesa, Marcos Cezar Ferreiraf, Weber Ursi: Miniscrew insertion sites of infrazygomatic crest and mandibular buccal shelf in different vertical craniofacial patterns: A cone-beam computed tomography study. Korean J Orthod 2021;51:387-396.
7. Three-dimensional changes of the zygomaticomaxillary complex after mini-implant assisted rapid maxillary expansion Kyeong-Tae Song,a Jae Hyun Park,b,c Won Moon,d Jong-Moon Chae,e,f and Kyung-Hwa Kangg. American Journal of Orthodontics and Dentofacial Orthopedics November 2019 , Vol 156, Issue5, 653-662
8. Sandra Tai. Clear Aligner Technique, 2018. Text book, Chapter 2,3 and 6





Professionalism and Ethics:

1. Professionalism and Ethics, Handbook for Residents, Practical guide, Prof. James Ware, Dr. Abdulaziz Fahad Alkaabba, Dr. Ghaiath MA Hussein, Prof. Omar Hasan Kasule, SCFHS, Latest Edition.
2. Essentials of Patient Safety, SCHS, Latest Edition.

Note:

This list is intended for use as a study aid only. SCFHS does not intend the list to imply endorsement of these specific references, nor are the exam questions necessarily taken solely from these sources.





Blueprint Outlines:

No.	Sections	Percentage
1	Growth and Development	5%
2	Orthodontic Diagnosis and Treatment Planning	10%
3	Growth Modification	10%
3	Treatment Modalities	17%
5	Retention and Stability	5%
6	Comprehensive Treatment in Adolescents and Preadolescent	12%
7	Adult Orthodontics	10%
8	Clinical Orthodontics	12%
9	Dentofacial Deformity	5%
10	Biomechanics and Contemporary Orthodontic Appliance	14%
Total		100%

Notes:

- Blueprint distributions of the examination may differ up to +/-5% in each section.
- Percentages and content are subject to change at any time. See the SCFHS website for the most up-to-date information.
- Research, Ethics, Professionalism, and Patient Safety are incorporated within various domains.

