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Andrea Stephanie Bayas

2019
INTRODUCTION

Nowadays, professionals of different areas have to face the current challenges of a globalized world, thus, communicating in the English language has become as important as their major related abilities. *English for Specific Purposes* (ESP) is an approach to the education of English orientated for specific scientific, medical, technological, economic and academic areas. The ESP aims to satisfy both inside and outside the classroom needs of students who, beyond the learning of the language indeed, require to talk about specific topics in certain professional fields. (Hall, 2014)

Most of meaningful academic information about Dentistry issues is published in the English such as: journals, books, scientific websites, and others. It is really important for general and specialized dentist to handle this information in this foreign language in order to reinforce their knowledge and learn about the new tendencies in the dental area. So, mastering the writing, listening, reading, and speaking skills will let them develop all their abilities to participate in academic events, publish papers and books in the English language.

This book is a new educational didactic resource for dental students and professionals who want to improve their English communication in a work environment. It includes career-specific vocabulary and contexts. Each lesson provides opportunities for learners to talk about common oral pathologies in the English practicing the four language skills in an interactive form. The central goal is to help students in the complex business of learning English for specific purposes.

The book “Talking about Dentistry” comes from the research called “Dentistry and the teaching of English for Specific Purposes”, the whole professor staff and students of the dentistry school of the National University of Chimborazo-Ecuador were interviewed in order to determine their weaknesses and know their priorities and needs for developing this didactic resource. It contains 17 lessons which include different tasks that considers topics like: Education in Prevention of Oral Heath, Common Oral Diseases, Internal Dental Anatomy, Pulpal and Periapical Diagnosis, Anatomy of the Periodontium, Effects of Tobacco Smoking on Chronic Periodontitis, Dental Radiographic Techniques and Normal Anatomy Landmarks, Radiographic Diagnosis of Dental and Maxillofacial Pathologies, Pulpectomy, Pulpotomy, Oral Cancer, Cleft Lip and Palate,
PROLOGUE

This anthology has the scope and limits of having been developed from the love I feel for dentistry and the English language. I do it with all the respect I feel for this career and with the greatest interest in providing all the current knowledge of topics of first importance, in a pleasant and practical way for the dentistry student. I would like us to go through these pages together. This literary anthology is not only directed to students, but also to teachers, or anyone interested in acquiring basic knowledge of dentistry in English.

Dr. Raciel Sánchez S.

University Professor/ Dental Specialist
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Task 1. Look at the picture and talk about it.

Task 2. Read a short explanation about the topic.

Oral health is a key indicator of overall health, wellbeing and quality of life. WHO defines oral health as “a state of being free from chronic mouth and facial pain, oral and throat cancer, oral infection and sores, periodontal (gum) disease, tooth decay, tooth loss, and other diseases and disorders that limit an individual’s capacity in biting, chewing, smiling, speaking, and psychosocial wellbeing.” (World Health Organization, 2019)

Task 3. Work in pairs, ask and answer the following questions.

1. When you educate in oral health, how many diseases do you prevent?
2. Can you recommend five forms of oral health prevention at least?
3. How many groups of risk of poor oral health do you know? /Why?
Task 4. Read the following text about oral health education and prevention. Discuss about it with your classmates and teacher.

Oral health refers to the health of people’s teeth, gums, supporting bone and soft tissues of the mouth, tongue and lips. Good oral health is the ability to eat, speak, and socialize without active disease, discomfort or embarrassment. Having poor oral health can exacerbate existing health conditions and impact on people’s mental well-being due the experience of pain and limitations in communicating or socializing.

Risk factors for poor oral health, poor oral hygiene from poor tooth brushing, insufficient exposure to fluoride and consumption of a diet that is high in sugar are the main direct risk factors for an individual’s poor oral health.

Promote oral health through healthier food and drink choices

Objectives
1. Promote oral health by making healthier choices easier through multi-stranded approaches to promote healthier food, drink choices, and reduce sugar intake.
2. Commission interventions that encourage and support breastfeeding and healthy complementary feeding (weaning).
3. Promote healthier food and drink choices that are lower in sugar in settings that the local authority reaches e.g. leisure, education, social and residential care and local food outlets.

- Making drinking water more attractive and easier for children
- Healthy food and drink in schools
- Complementary feeding workshops
- Supporting breast feeding
- Local shops promoting oral health
- Improving workplace health

Promote oral health by improving levels of oral hygiene

Objectives
4. Commission supervised tooth brushing programs for pre-school and primary school children at high risk of poor oral health

5. Train front line staff to provide demonstrations on how to clean teeth among those at high risk of poor oral health

6. Commission programs that provide free toothbrushes and toothpaste to all preschool and primary school children, prioritizing targeted interventions among those at high risk of poor oral health.

- Promoting and enabling tooth brushing among young children
- Promoting oral hygiene with families using dental health sacks
- Promoting oral hygiene in community settings using a dental health resource box
- through review of community health and social care specifications

Improve population exposure to fluoride

Objectives

7. Promote the use of fluoride toothpaste among those at high risk of poor oral health

8. Commission programs that provide free toothbrushes and toothpaste to pre-school and primary school children, prioritizing targeted interventions for those at high risk or poor oral health.

9. Commission fluoride varnishing programs for young children in areas with high rates of tooth decay

Improve early detection, and treatment, of oral disease

Objectives

10. Maximize all opportunities for signposting to local NHS dental services

11. Promote the benefits of visiting a dentist throughout the life course

12. Raise awareness of eligibility for free check-ups, prioritizing those at high risk or poor oral health

- Promoting visits to the dentist through letters sent to parents
- Embedding oral health promotion in commissioned services
- Promotion of dental care to the working population
- Promotion of free dental care to those eligible
Reduce inequalities in oral health Objectives

13. Look for opportunities to embed oral health promotion within all health and wellbeing policies, strategies and commissioning.

14. Promote oral health among vulnerable groups; young children, people with diabetes, people who smoke, consume high quantities of alcohol or use drugs, people with learning disability, the elderly and other locally identified vulnerable groups.

15. Equip the wider health and social care workforce with the knowledge and skills to recognize the link with neglect and complex social circumstances and ensure provision of care for those at high risk of poor oral health.

- Smokers motivation to quit increased by poor oral health
- Oral health promotion for vulnerable groups
- Whole school approaches
- Whole school programs
- Improving health visitor contact points
- Providing comprehensive oral health training for front line staff. (World Health Organization, 2019)

Task 5. Write five promoting oral health objectives related to the reading above.

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Task 6. Close your book. Listen to audio 1 and try to understand the main ideas. Then, watch video 1 to complete the following statements about oral health and the social determinants of it.

1. Our disease remains a _______ problem, particularly among disadvantaged preparation, _______, industrials and developing countries.
2. All our [3_____] are also associated with [4________] including conditions such as [5_______] and cardiovascular disease.

3. There is a ring between oral health and general health through common [6_______] [_____] including [7__________], [_____] use and alcohol consumption.

4. Inequalities in oral health remain [8________] both between and within countries and often mirror in majorities in general health.

5. These inequalities [9_____] in magnitude and extent and they are becoming marked in low middle income countries even in [10_____________] countries which advanced our [11_______ ___ _____], inequalities in oral health [12______].

6. Our disease are [13_________] and social inequality in our health it's [14_______], intervention strategies which ignores the [15_________] context and related risk factors, offer most potential for [16_______] of oral health.

Fig. 2: Video 1
Source: (Fisher, 2016)

Task 7. Vocabulary. Write the translation of the following words into Spanish, and make a sentence with each one.

<table>
<thead>
<tr>
<th>1 wellbeing</th>
<th>2 outcome</th>
<th>3 buried</th>
<th>4 neglect</th>
<th>5 sore</th>
<th>6 feeding</th>
<th>7 check-up</th>
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1. _______________________________________________________
2. _______________________________________________________
3. _______________________________________________________
4. _______________________________________________________
5. _______________________________________________________
6. _______________________________________________________
7. _______________________________________________________
Task 8. Reinforcement. Do the activity following the instructions.

Fig. 3: DRAFT for public consultation May 2016
Source: (World Health Organization, 2019)

Instructions

• Join in two groups
• Connect the ideas in the picture above in order to create six sentences about promoting oral health
• Write down your ideas, then compare all sentences, which have more different ideas is the winner.
LESSON 2

COMMON ORAL DISEASES

Task 1. Look at the picture and talk about it.

Task 2.- Read a short explanation about the topic.

Oral diseases may directly affect a limited area of the human body, but their consequences and impacts affect the body as a whole. (World Dental Federation, 2015)

Task 3. Work in pairs, ask and answer the following questions.

1. Do you agree with the statement above? / Why?
2. What are the five most common oral diseases?
3. What are the main systemic consequences of tooth loss?
Task 4. Read the following text about five dental and maxillary more common pathologies. Discuss about it with your classmates and teacher.

The World Health Organization (WHO) defines oral health as ‘a state of being free from mouth and facial pain, oral and throat cancer, oral infection and sores, periodontal disease, tooth decay, tooth loss, and other diseases and disorders that limit an individual’s capacity in biting, chewing, smiling, speaking, and psychosocial wellbeing.’

**Tooth decay**

Tooth decay (dental caries) is the most widespread chronic disease worldwide and constitutes a major global public health challenge. It is the most common childhood disease, but it affects people of all ages throughout their lifetime. Current data show that untreated decay of permanent teeth has a global prevalence of over 40 percent for all ages combined and is the most prevalent condition out of 291 diseases included in the Global Burden of Disease Study.

Tooth decay is principally caused by sugar consumption and can largely be prevented by reducing sugar intake, appropriate fluoride use and promoting good oral hygiene.

**Periodontal disease**

Periodontal (gum) disease begins as gingivitis (chronic inflammation of the gums), which is very widespread and for the majority of patients completely reversible. It may progress to periodontitis, a more serious condition that destroys tooth-supporting tissues and bone. In about 15 percent of the population, the disease can progress further to severe periodontitis that leads rapidly to tooth loss. The disease process is still poorly understood, but it tends to progress through phases of rapid, irreversible tissue destruction. By the age of 65 to 74 years about 30 percent of people have lost all their teeth, with periodontal disease being the main cause.

Periodontal disease is one of the commonest diseases of humankind, but is largely preventable through good oral hygiene and preventive policies addressing common risk factors.
Oral cancer

Oral cancer is a disease with high mortality and is among the 10 most common cancers, depending on country or world region. It is estimated that 300,000 to 700,000 new cases occur every year, but reliable surveillance data are missing.

Oral cancer is among the 10 most common cancers, but reducing tobacco and alcohol consumption can largely prevent it. Survival rates can be improved with early detection.

Congenital anomalies

Congenital anomalies of the face and mouth are frequent, with cleft lip and/or palate (orofacial clefts – OFC) accounting for two-thirds of the total. Clefts occur either alone (70 percent) or as part of a syndrome, affecting more than 12 in 10,000 newborns worldwide.

Cleft lip and/or palate are the most frequent birth defects of the face and mouth, creating a heavy burden in terms of mortality, disability, quality of life and financial cost.

Oral trauma

Oral injuries account for 5 percent of all injuries, and craniofacial trauma is responsible for about half of the estimated total 8.5 million trauma deaths worldwide. They include fractures of the jaws and other facial bones, as well as fractures, dislocations and loss of teeth.

Oral trauma is common and can be prevented by improving public health policies and raising awareness of risks related to violence, sports and road safety. (World Dental Federation, 2015)

Task 5. Write a summary of five dental and maxillary more common pathologies in task 3, include each pathology.
Task 6. Close your book. Listen to audio 2 and try to understand the main ideas. Then, watch video 2 to complete the following statements about oral health basics dental disease.

1. __________ is a gum infection and is caused by __________ which we know as __________, it forms on the teeth and around the __________, it can also form on __________.
2. Plaque is a __________ _______ _______ that accumulates around the __________
3. The __________ forms a __________ that causes gum disease and __________ ____ in your mouth.
4. The signs of __________ _______ and __________ _______ are obvious if you watch for them look for red, __________ or __________ gums, bad breath, __________ teeth and partials or dentures that do not __________ properly.
5. Periodontal disease creates __________ __________ and __________ around the teeth, there’s usually no __________ with periodontal disease, it is a __________ disease.
6. Dental caries or __________ if there is no sugar there would be no cavities or __________ _______, the __________ and bacteria plus __________ creates an acidic environment.
7. Your mouth goes from a __________ or a neutral environment to an __________ _______ each time you consume food that contains __________ or __________.
8. The __________ of the food is also important, soft candy and __________ foods can __________ to the surfaces of the teeth and stay there for long periods of time, __________ on candy allows the sugar to reach all areas of the mouth causing __________
9. __________ helps to __________ tooth decay.

Fig. 5: Video 2
Source: (Healthy, 2012)

Task 7. Vocabulary. Write the translation of the following words into Spanish, and make a sentence with each one.

<table>
<thead>
<tr>
<th>1. sore</th>
<th>2. widespread</th>
<th>3. surveillance</th>
<th>4. cleft lip</th>
</tr>
</thead>
<tbody>
<tr>
<td>5. sticky</td>
<td>6. bad breath</td>
<td>7. starchy</td>
<td>8. suck</td>
</tr>
<tr>
<td>9. tooth decay</td>
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</tbody>
</table>

1. ____________________________
Task 8. Reinforcement. Pictionary

Pictionary can help students practice their vocabulary and see if they are remembering the words

Instructions:

- Divide the class into teams of 2 and draw a line in the center of the board.
- Give each team member a pen and ask them to choose a word from the bag.
- Tell students to draw the word as an image on the board and encourage their team to guess the word.
- The first team to shout the correct answer gets a point.
- The student who has completed the drawing must nominate another person to draw for their team.
- Repeat this until all the words have disappeared. Make sure you have enough words so that each student can draw at least once!
Task 2.- Read a short explanation about the topic.

As far back as 1500 B.C., the Greeks, Romans and Chinese have been focused on remedies to relieve and treat tooth pain. The Chinese first described dental caries through the tooth worm theory. This theory of an outside parasite inflicting damage to the tooth prevailed as the largely accepted theory for decay and the eventual pain associated with it. Not until the age of the microscope was this celebrated theory dismissed. Pierre Fouchard, in the “Surgical Dentist” refutes the worm theory in 1728, as he describes a method of access and removal of the offending pulpal tissue with the consequent placement of lead filings. (Shane, 2009)

Task 3. Work in pairs, ask and answer the following questions.

1. Have you heard about the “tooth worm” and ghost inside of teeth? Could you explain that?
2. What is the real cause of dental cavities and dental diseases? Explain
3. What are the consequences of dental cavity progression?
Task 4. Read the following text about tooth anatomy. Discuss about it with your classmates and teacher.

The tooth is made up of four tissues: enamel, dentin, cementum, and pulp. The first three of these (enamel, dentin, and cementum) are relatively hard since they contain considerable mineral content, especially calcium (so these tissues can also be described as calcified). Only two of these tissues are normally visible in an intact extracted tooth: enamel and cementum. The other two tissues (dentin and pulp) are usually not visible on an intact tooth.

Enamel is the white, protective external surface layer of the anatomic crown. It is highly calcified or mineralized, and is the hardest substance in the body. Its mineral content is 95% calcium hydroxy-apatite (which is calcified). The remaining substances include 5% water and enamel matrix.

Cementum is the dull yellow external layer of the tooth root. The cementum is very thin, especially next to the cervical line, (only 50–100 mm thick where one mm is one millionth of a meter). It is composed of 65% calcium hydroxyapatite (mineralized and calcified), 35% organic matter (collagen fibers), and 12% water. Cementum is about as hard as bone but considerably softer than enamel.

The cementoenamel junction (also called the CEJ) separates the enamel of the crown from the cementum of the anatomic root. This junction is also known as the cervical line, denoting that it surrounds the neck or cervix of the tooth.

Dentin is the hard yellowish tissue underlying the enamel and cementum, and makes up the major bulk of the inner portion of each tooth crown and root. It extends from the pulp cavity in the center of the tooth outward to the inner surface of the enamel (on the crown) or cementum (on the root). Mature dentin is composed of about 70% calcium hydroxyapatite, 18% organic matter (collagen fibers), and 12% water, making it harder than cementum but softer and less brittle than enamel.
The dentinoenamel junction is the inner surface of the enamel cap where enamel joins dentin. The cementodentinal junction is the inner surface of cementum where cementum joins dentin. Cementum is so thin that it is difficult to identify this junction on a radiograph.

Pulp is the soft (not calcified or mineralized) tissue in the cavity or space in the center of the crown and root called the pulp cavity. The pulp cavity has a coronal portion (pulp chamber) and a root portion (pulp canal or root canal). The pulp cavity is surrounded by dentin, except at a hole (or holes) near the root tip (apex) called an apical foramen. Nerves and blood vessels enter the pulp through apical foramina. Functions of the dental pulp are: Formative, Sensory, Nutritive, and defensive or protective. (Scheid & Weiss, 2012)

In 1984 Vertucci introduced a classic study classifying commonly seen variations of root canal anatomy. Vertucci examined 2,400 permanent extracted teeth using a dye injection technique that highlighted the canal anatomy. His result determined eight canal types that were classified as follows:

1. Type I is a single canal from the chamber to the apex.
2. Type II has two separate canals from the chamber, but joins near the apex and exits as one.
3. Type III has one canal that separates into two canals in the mid-root and rejoins and exits as one canal.
4. Type IV has two separate canals in the chamber that exit as two separate canals.
5. Type V has a single canal that divides into two separate canals.
6. Type VI has two canals in the chamber that join and then exit as two separate canals.
7. Type VII has a single canal in the chamber that divides and rejoins and then exits as two canals.
8. Type VIII has three separate canals from chamber to apex.
Walton3 illustrates the Weine classification for canal configurations and highlights four common canal configurations:

1. Type I is a single canal from the chamber to the apex.
2. Type II has two separate canals from the chamber, but they join near the apex and exit as one.
3. Type III has two canals from chamber to apex.
4. Type IV has one canal from the chamber, but which exits as two separate canals. (Shane, 2009)

Task 5. Write a summary about the four tissues that make up a tooth.

_______________________________________________________________________________
_______________________________________________________________________________
_______________________________________________________________________________
_______________________________________________________________________________

Task 6. Close your book. Listen to audio 3 and try to understand the main ideas. Then, watch video 3 to complete the following statements about tooth anatomy.

1. The top of the tooth, an area called the __________ because this part of the tooth __________ food, it's covered with the ____________ in the body.
2. The __________ of tooth __________ is the reason our teeth are __________, __________ and __________.
3. __________ the enamel and down into the roots the tooth is made up of __________ although it's __________ than enamel, it's still harder than __________.
4. The __________ of every tooth is __________ to make room for __________ needed to keep the tooth __________, this collection of soft tissue is called the __________ and also contains the __________ that warn us when something is wrong with the tooth.
5. The nerves and blood vessels enter the tooth through a __________ at the __________ of the root and travel up through the __________ to fill up the space in the crown called the __________.
6. Every tooth sits in a 21_____ in the 22________ and is held in place by a 23______ _____ called the 24__________ this stretchy connection means each tooth can move a little when you 25_____.
7. Above the jaw bone that tooth is 26_______ in a firm 27______ of 28_______ ______ or 29________.

Task 7. Vocabulary. Write the translation of the following words into Spanish, and make a sentence with each one.

<table>
<thead>
<tr>
<th><strong>1. make up</strong></th>
<th><strong>2. worm</strong></th>
<th><strong>3. dull</strong></th>
<th><strong>4. surround</strong></th>
<th><strong>5. yellowish</strong></th>
<th><strong>6. bulk</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>7. inner surface</strong></td>
<td><strong>8. pulp chamber</strong></td>
<td><strong>9. hole</strong></td>
<td><strong>10. blood vessels</strong></td>
<td><strong>11. dye</strong></td>
<td><strong>12. grind up</strong></td>
</tr>
<tr>
<td><strong>13. cuff</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

1. __________________________________________________________
2. __________________________________________________________
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12. __________________________________________________________
13. __________________________________________________________
Task 8. Reinforcement. Use the words in the box to fill in the gaps with the correct name of each anatomic structure of tooth.

<table>
<thead>
<tr>
<th>Apical foramen</th>
<th>Dentin</th>
<th>Cementoenamel junction</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cementum</td>
<td>Root canal</td>
<td>Pulp chamber</td>
</tr>
<tr>
<td>Dentinoenamel junction</td>
<td>Anatomic crown</td>
<td>Enamel Anatomic root</td>
</tr>
</tbody>
</table>

Fig. 9: Tooth anatomy  
Source: (Scheid & Weiss, 2012)
Task 2. Read a short explanation about the topic.

An Ancient Science

Endodontics may have been practiced as early as the second or third century B.C. A skull found in the Negev Desert in Israel had a bronze wire in one of its teeth. Researchers believe the wire may have been used to treat an infected pulp. (Langley Endodontic, 2013)

Task 3. Work in pairs, ask and answer the following questions.

1. How many ways of treating an infected pulp have you heard about? Explain one of them.
2. Do you know the newest way of treating an infected pulp? Explain the newest way that you know.
Task 4. Read the following text about pulpal diagnosis. Discuss about it with your classmates and teacher.

Normal Pulp is a clinical diagnostic category in which the pulp is symptom-free and normally responsive to pulp testing. A “clinically” normal pulp results in a mild or transient response to thermal cold testing, lasting no more than one to two seconds after the stimulus is removed.

Reversible Pulpitis is based upon subjective and objective findings indicating that the inflammation should resolve and the pulp return to normal following appropriate management of the etiology. Discomfort is experienced when a stimulus such as cold or sweet is applied and goes away within a couple of seconds following the removal of the stimulus. Typical etiologies may include exposed dentin (dentinal sensitivity), caries or deep restorations. There are no significant radiographic changes in the periapical region of the suspect tooth and the pain experienced is not spontaneous.

Symptomatic Irreversible Pulpitis is based on subjective and objective findings that the vital inflamed pulp is incapable of healing and that root canal treatment is indicated. Characteristics may include sharp pain upon thermal stimulus, lingering pain (often 30 seconds or longer after stimulus removal), spontaneity (unprovoked pain) and referred pain. Sometimes the pain may be accentuated by postural changes such as lying down or bending over and over-the-counter analgesics are typically ineffective.

Asymptomatic Irreversible Pulpitis is a clinical diagnosis based on subjective and objective findings indicating that the vital inflamed pulp is incapable of healing and that root canal treatment is indicated. These cases have no clinical symptoms and usually respond normally to thermal testing but may have had trauma or deep caries that would likely result in exposure following removal.

Pulp Necrosis is a clinical diagnostic category indicating death of the dental pulp, necessitating root canal treatment. The pulp is non-responsive to pulp testing and is asymptomatic. Pulp necrosis by itself does not cause apical periodontitis (pain to percussion or radiographic evidence of osseous breakdown) unless the canal is infected. Some teeth may be nonresponsive
to pulp testing because of calcification, recent history of trauma, or simply the tooth is just not responding.

Previously Treated is a clinical diagnostic category indicating that the tooth has been endodontically treated and the canals are obturated with various filling materials other than intracanal medicaments. The tooth typically does not respond to thermal or electric pulp testing. Previously Initiated Therapy is a clinical diagnostic category indicating that the tooth has been previously treated by partial endodontic therapy such as pulpotomy or pulpectomy. Depending on the level of therapy, the tooth may or may not respond to pulp testing modalities.

**Apical Diagnoses**

Normal Apical Tissues are not sensitive to percussion or palpation testing and radiographically, the lamina dura surrounding the root is intact and the periodontal ligament space is uniform.

Symptomatic Apical Periodontitis represents inflammation, usually of the apical periodontium, producing clinical symptoms involving a painful response to biting and/or percussion or palpation. This may or may not be accompanied by radiographic changes. Severe pain to percussion and/or palpation is highly indicative of a degenerating pulp and root canal treatment is needed.

Asymptomatic Apical Periodontitis is inflammation and destruction of the apical periodontium that is of pulpal origin. It appears as an apical radiolucency and does not present clinical symptoms (no pain on percussion or palpation).

Chronic Apical Abscess is an inflammatory reaction to pulpal infection and necrosis characterized by gradual onset, little or no discomfort and an intermittent discharge of pus through an associated sinus tract. Radiographically, there are typically signs of osseous destruction such as a radiolucency.

Acute Apical Abscess is an inflammatory reaction to pulpal infection and necrosis characterized by rapid onset, spontaneous pain, extreme tenderness of the tooth to pressure, pus formation and swelling of associated tissues. There may be no radiographic signs of destruction and the patient often experiences malaise, fever and lymphadenopathy.
Condensing Osteitis is a diffuse radiopaque lesion representing a localized bony reaction to a low-grade inflammatory stimulus usually seen at the apex of the tooth. (Glickman & Schweitzer, 2013)

Task 5. Write a summary about apical diagnosis.

______________________________________________________________________________
______________________________________________________________________________
______________________________________________________________________________
______________________________________________________________________________

Task 6. Close your book. Listen to audio 4 and try to understand the main ideas. Then, watch video 4 to complete the following statements about endodontic diagnosis.

1. Our profession is excellent at _______ _______ _______, but I'm talking about _______ involved ______, the patient has ________.
2. We need to do the _______ _______ so we should identify is the _______ _______, is it _______ can that tooth take another dental procedure, so our patients oftentimes give us their _______ _______.
3. The three phases of the exam are the _______ _______ where you can _______ _______, look in the _______ _______, look for _______ _______ oftentimes secondary to _______.
4. We can _______ _______ the _______ _______ of the vestibule and look in there and see _______ from an _______ _______.
5. There's a _______ _______ point tracing that _______ _______ and it'll trace into a lesion of _______ _______.
6. Our clinical exam can find _______ _______, we can look at _______ _______, we can look at existing restorations, _______ _______ and all this comprises part of our endodontic clinical examination.
7. The _______ _______ and the duration of the response and if we begin to do this on _______ _______, contralateral teeth and adjacent teeth we can get pretty good at locking that patient in.
8. The third phase in the _______ _______ is the radiographic exam and the thing to emphasize here is the importance of getting two to three well-angled different _______ _______ by doing this.

Fig. 11: Video 4
Source: (Dentsply Sirona Endodontics US, 2013)
Task 7. Vocabulary. Write the translation of the following words into Spanish, and make a sentence with each one.

<table>
<thead>
<tr>
<th></th>
<th>Mild</th>
<th>2. wire</th>
<th>3. skull</th>
<th>4. heal</th>
<th>5. lingering pain</th>
<th>6. lying down</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>7. osseous breakdown</td>
<td>8. painful</td>
<td>9. filling material</td>
<td>10. bite</td>
<td>11. pull back</td>
<td>12. perilous</td>
</tr>
</tbody>
</table>

1. ____________________________________________________________
2. ____________________________________________________________
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Task 8. Reinforcement. Match the X-ray with the right description and diagnosis.

<table>
<thead>
<tr>
<th>X-ray</th>
<th>DESCRIPTION</th>
<th>DIAGNOSIS</th>
</tr>
</thead>
<tbody>
<tr>
<td>I. <img src="image1.png" alt="X-ray Image" /> <strong>Fig. 12: Diagnosis</strong> Source: (Glickman &amp; Schweitzer, 2013)</td>
<td>1. A full gold crown on the maxillary right second molar, the patient complained of sensitivity to both hot and cold liquids; now the discomfort is spontaneous. Upon application of Endo-Ice® on this tooth, the patient experienced pain and upon removal of the stimulus, the discomfort lingered for 12 seconds. Responses to both percussion and palpation were normal; radiographically, there was no evidence of osseous changes. Note that the maxillary second premolar has severe distal caries.</td>
<td>a. Diagnosis: pulp necrosis; asymptomatic apical periodontitis</td>
</tr>
<tr>
<td>II. <img src="image2.png" alt="X-ray Image" /> <strong>Fig. 13: Diagnosis</strong> Source: (Glickman &amp; Schweitzer, 2013)</td>
<td>2. Mandibular right lateral incisor has an apical radiolucency that was discovered during a routine examination. There was a history of trauma more than 10 years ago and the tooth was slightly discolored. The tooth did not respond to Endo-Ice®. There was no tenderness to percussion or palpation in the region. Treatment is non-surgical endodontic treatment followed by bleaching and permanent restoration.</td>
<td>b. Diagnosis: previously treated; symptomatic apical periodontitis</td>
</tr>
<tr>
<td>III. <img src="image3.png" alt="X-ray Image" /> <strong>Fig. 14: Diagnosis</strong> Source: (Glickman &amp; Schweitzer, 2013)</td>
<td>3. Maxillary left lateral incisor exhibits an apical radiolucency. There is no history of pain and the tooth is asymptomatic. There is no response to Endo-Ice®. There is no tenderness to percussion or palpation. Treatment is nonsurgical endodontic treatment and placement of a permanent restoration.</td>
<td>c. Diagnosis: reversible pulpitis; normal apical tissues</td>
</tr>
<tr>
<td>X-ray</td>
<td>DESCRIPTION</td>
<td>DIAGNOSIS</td>
</tr>
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<tr>
<td>I</td>
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<tr>
<td>V</td>
<td></td>
<td></td>
</tr>
<tr>
<td>VI</td>
<td></td>
<td></td>
</tr>
<tr>
<td>VII</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

4. Mandibular right first molar had been hypersensitive to cold and sweets over the past few months but the symptoms have subsided. Now there is no response to thermal testing and there is tenderness to biting and pain to percussion. Radiographically, there are diffuse radiopacities around the root apices. Non-surgical endodontic treatment is indicated followed by a build-up and crown. Over time the condensing osteitis should regress partially or totally.

d. Diagnosis: pulp necrosis; symptomatic apical periodontitis with condensing osteitis.

5. Maxillary left first molar was endodontically treated more than 10 years ago. The patient is complaining of pain to biting over the past three months. There appear to be apical radiolucencies around all three roots. The tooth was tender to both percussion and to the Tooth Slooth®. Treatment is nonsurgical endodontic retreatment followed by permanent restoration of the access cavity.

f. Diagnosis: pulp necrosis; asymptomatic apical periodontitis.

6. Maxillary left first molar has occlusal-mesial caries and the patient has been complaining of sensitivity to sweets and to cold liquids. There is no discomfort to biting or percussion. The tooth is hyper-responsive to Endo-Ice® with no lingering pain. Treatment would be excavation of the caries followed by placement of a permanent restoration. If the pulp is exposed, treatment would be non-surgical endodontic treatment followed by a permanent restoration such as a crown.

g. Diagnosis: pulp necrosis; chronic apical abscess.
The periodontium serves as the supporting apparatus for the teeth in function and in occlusal relationships. (Palumbo, 2011)

Task 2. Read a short explanation about the topic.

Task 3. Work in pairs, ask and answer the following questions.

1. What are the macroscopic anatomical structures of periodontium?
2. What is the main function of periodontium?
3. How do you evaluate periodontium structures?
Task 4. Read the following text about appearance of the periodontium. Discuss about it with your classmates and teacher.

Macroscopic appearance of the periodontium

The periodontium is composed of the gingiva, alveolar mucosa, cementum, periodontal ligament, and alveolar bone. The oral mucosa can be divided into three types: the masticatory, lining, and specialized mucosa. The gingiva is firmly bound to the underlying bone and is continuous with the alveolar mucosa that is situated apically and is unbound. The border of these two tissue types is clearly demarcated and is called the mucogingival junction. The gingiva consists of a free gingival margin and attached gingiva. The tissue that resides in the interproximal embrasure is called the interproximal papilla. Also present in the wider papillary areas is the col. This is a valley-like structure situated apical to the contact area. The gingival sulcus is the invagination around a tooth bounded by the free gingival margin.

Microscopic appearance of the periodontium

Greater detail of the periodontium is obtained histologically. The gingiva consists of a surface epithelium and underlying connective tissue termed the lamina propria. There are three types of epithelium present, the oral, sulcular, and the junctional epithelium.

The border of the connective tissue and epithelium is undulating. These epithelial extensions are known as epithelial ridges or rete pegs. The connective tissue layer is also termed the lamina propria or the dental papillae. The gingiva consists of keratinized, stratified, squamous epithelium. There are four distinct layers; the stratum basale, stratum spinosum, stratum granulosum, and the stratum corneum. In health, the depth of the sulcular epithelium is less than 3mm and ends at the coronal surface of the junctional epithelium.

The periodontal ligament is the connective tissue that connects the tooth to the alveolar bone. The periodontal ligament serves to allow forces to be distributed to the alveolar bone during mastication and occlusal function. The ligament is about 0.15mm to 0.25mm in width. With root development principle fibers, which are collagenous bundles, insert their terminal ends into the root cementum and alveolar bone and are termed Sharpey’s fibers or periodontal ligament.
fibers. The six groups are the transseptal, horizontal, alveolar, oblique, apical, and radicular groups.

The cementum is a mineralized tissue covering the anatomic root of the tooth. Cementum is avascular and has no direct innervation. It is made of collagen fibers within a mineralized matrix. Fibers present in the cementum may be classified as extrinsic or intrinsic. Cementum is characterized into acellular and cellular types. Acellular afibrillar cementum is located near the coronal aspect of the root and has no cells and no extrinsic or intrinsic collagen fibers within it. Acellular extrinsic fibrillar cementum is found in the middle and coronal parts of the root and lacks cells. This type of cementum has Sharpey’s fibers.

The alveolar process is the osseous tissue of the maxillary and mandibular jaws which houses and supports the sockets of the teeth. The plate, the inner socket wall known as the alveolar bone proper and is compact bone, and a cancellous trabecular bone in between the two boney layers. The bone is typically thicker in the palatal and lingual areas when compared to the buccal areas. (Palumbo, 2011)

Task 5. Write a summary of anatomy of periodontium in task 3, include the name of all structures.

___________________________________________________________________________
___________________________________________________________________________
___________________________________________________________________________
___________________________________________________________________________
___________________________________________________________________________
___________________________________________________________________________

Task 6. Close your book. Listen to audio 5 and try to understand the main ideas. Then, watch video 5 to complete the following statements about gingival fiber bundles.

1. Alveolar 1_______ _______ extend from the 2_______ of the alveolar 3_______ into the gingival connective tissue, these fiber 4_______ attach the gingiva to the 5_______.
2. The ________ is a dense ________ composed of ________ connective tissue that closely ________ the outer surface of the alveolar bone.

3. ________ fibers encircle the tooth in a ________ like manner coronal to the alveolar crest and are not attached to the ________ of the tooth, these fiber bundles ________ adjacent teeth to one another.

4. Dental gingival fibers are ________ in the cementum near the ________ and ________ into the gingival connective tissues.

5. ________ gingival fibers extend laterally from the ________ of the alveolar bone, these fibers attach the gingiva to the bone.

6. ________ fibers encircle several teeth these fiber groups link adjacent teeth into a dental arch unit.

7. ________ fibers are located in the ________ coronal to the ________ fiber bundles, these fiber groups connect the oral and vestibular ________ of posterior teeth.

8. ________ fibers extend from the cementum near the CEJ and run ________ between adjacent teeth these fiber bundles link adjacent teeth into a dental arch unit.

9. ________ fibers pass from the ________ of one tooth over the crest of ________ to the cementum of the adjacent tooth, these fiber bundles connect adjacent teeth to one another and secure ________ of teeth in the arch.

Task 7. Vocabulary. Write the translation of the following words into Spanish, and make a sentence with each one.

<table>
<thead>
<tr>
<th>Word</th>
<th>Translation</th>
<th>Sentence</th>
</tr>
</thead>
<tbody>
<tr>
<td>bind</td>
<td>ligado</td>
<td>Los ligamentos se ________ al hueso.</td>
</tr>
<tr>
<td>lining</td>
<td>revestimiento</td>
<td>La encía está ________ al hueso.</td>
</tr>
<tr>
<td>underlying</td>
<td>subyacente</td>
<td>Los ligamentos subyacentes ________ las raíces de los dientes.</td>
</tr>
<tr>
<td>embedded</td>
<td>insertado</td>
<td>Los ligamentos están ________ en el hueso.</td>
</tr>
<tr>
<td>surface</td>
<td>superficie</td>
<td>La superficie de la encía ________ el hueso.</td>
</tr>
<tr>
<td>fan out</td>
<td>se expanden</td>
<td>Las fibras se ________ hacia afuera del hueso.</td>
</tr>
<tr>
<td>embrasure</td>
<td>encrucijada</td>
<td>Las encrucijadas ________ entre los dientes.</td>
</tr>
<tr>
<td>junction</td>
<td>junta</td>
<td>Las junturas ________ entre los dientes.</td>
</tr>
<tr>
<td>fiber bundles</td>
<td>________</td>
<td>Las fibras ________ entre los dientes.</td>
</tr>
<tr>
<td>sulcus</td>
<td>surco</td>
<td>El surco ________ entre los dientes.</td>
</tr>
</tbody>
</table>
Task 8. Reinforcement. Choose the correct name of the following structures and write down them in the boxes below.

Oral junctional epithelium  Oral sulcular epithelium  Alveolar bone
Free gingival groove  Attached gingiva  Alveolar mucosa
Enamel  Mucogingival junction  CEJ (cementoenamel junction
Cementum  Free gingiva  Periodontal ligament
Sulcus  Gingival margin

Fig. 20: Fiber bundles
Fig. 21. (Palumbo, 2011)
LESSON 6

EFFECTS OF TOBACCO SMOKING ON CHRONIC PERIODONITIS

Task 1. Look at the picture and talk about it.

Fig. 21: Chronic periodontitis patient
Source: (Attia, y otros, 2017)

Task 2.- Read a short explanation about the topic.

Nicotine is considered the most pharmacologically active compound in tobacco smoke. Most is absorbed through the lung alveoli, but nicotine can also be absorbed, though more slowly, through the oral mucosa in sufficient quantities to have a pharmacological effect. During smoking it increases the heart rate, cardiac output, and blood pressure by autonomic stimulation, which also affects peripheral vasoconstriction. (Pejčić, Obradović, Kesić, & Kojović, 2007)

Task 3. Work in pairs, ask and answer the following questions.

1. What features can you add to describe a chronic periodontitis disease?
2. Can you name two microorganisms which lead a chronic periodontitis disease?
Task 4. Read the following text about chronic periodontitis in smokers. Discuss about it with your classmates and teacher.

Periodontitis is defined as "inflammatory disease of supportive tissue of teeth caused by specific microorganisms which lead to progressive destruction of periodontal membrane and alveolar bone, with formation of periodontal pockets and gingival recession.

Periodontal diseases are a group of conditions affecting the supporting structures of the dentition. Progression and severity of the disease depends on the complex interactions between several risk factors such as microbial, immunological, environmental and genetic factors, as well as age, sex and race. Tobacco smoking is a significant risk factor for periodontal disease.

WHO estimates that there are about 1100 million regular smokers in the world nowadays. About 300 million (200 million males and 100 million females) are in the developed countries.

**Smoking as Risk Factor for Periodontal Disease**

Cigarette smoking is a well-established risk factor for periodontitis and second to bacterial plaque, is the strongest of the modifiable risk factors. Smoking is associated with an increased risk for periodontal attachment and or bone loss, depending on the definition of disease severity and smoking dose.

**Etiopathogenesis of Periodontal Disease Progression in Smokers**

**Microbiology**

1) Effect of smoking on plaque development and accumulation: smokers showed a higher prevalence of dental plaque than non-smokers.

2) Effect of smoking on the subgingival microflora in periodontitis: there is a higher prevalence of Aa, T. forsythensis and p. gingivalis in the current or former smokers.

**Immunology**

a) Effect of Smoking on Neutrophils

1) Smokers have reduced phagocytic capacity compared to PMNs from non- smokers.

2) Tobacco smoking has been shown in human skin to decrease the rate of synthesis of specific collagen types, by increasing the production of collagen-degrading enzymes.
3) Neutrophil respiratory burst: a compromised respiratory burst may reduce the capacity of neutrophils to destroy plaque bacteria. Cigarette smoke constituents inhibit the respiratory burst of neutrophils.

b) Effect of smoking on Lymphocyte Function

Acute or chronic exposure to hydrocarbons, may stimulate or inhibit the immune response. (Grover, Bhardwaj, & Singh, 2013)

Task 5. Write a summary about smoking like a periodontitis etiology.

Task 6. Close your book. Listen to audio 6 and try to understand the main ideas. Then, watch video 6 to complete the following statements about smoking and periodontal disease.

1. Most people 1_______ _____ that 2_______ are three to six times more likely to have 3_______ ______ and two times more likely to 4_______ _____.
2. Periodontal disease is an 5_______ of the teeth 6_____ and the 7_______ that surrounds the teeth.
3. Plaque is the 8_______ ______ of food and bacteria that forms constantly on your teeth.
4. 9_______ helps to cause periodontal disease in two ways, it reduces the production of 10_______ and damages the 11_______ _____ to 12_____ _____ the infection.
5. Saliva helps to 13_______ ______ from the teeth, so less saliva means more 14_______ and 15______.
6. Saliva also contains 16_______ ______ ______ that help to fight destructive bacterias in the mouth.
7. Smoking damages your 17_______ _____ by causing blood vessels to 18_______ throughout your entire body, which reduces the flow of infection-fighting 19_______ ____ ____ oxygen and 20_______ to the 21_______.

Fig. 22: Video 6
Source: (fobnull, 2009)

Task 7. Vocabulary. Write the translation of the following words into Spanish, and make a sentence with each one.

<table>
<thead>
<tr>
<th>1 lung alveoli</th>
<th>2 heart rate</th>
<th>3 cardiac output</th>
<th>4 periodontal pocket</th>
</tr>
</thead>
<tbody>
<tr>
<td>5 fight off</td>
<td>6 tartar</td>
<td>7 dose</td>
<td></td>
</tr>
</tbody>
</table>

1. ___________________________________________________________________
2. ___________________________________________________________________
3. ___________________________________________________________________
4. ___________________________________________________________________
5. ___________________________________________________________________
6. ___________________________________________________________________
7. ___________________________________________________________________

Task 8. Reinforcement. HANGMAN

Instructions:

1. Take a paper in which will be some words about periodontitis (The participant will not see the content of the paper)

2. The participant will have to guess the name of the drug.

4. From here the basic rules of the Hangman Game are followed. (Say letters of the alphabet until the word is complete)

5. You have a maximum of 5 errors

6. If you think you know what the word is you can risk it and say it at any time of the game but if you fail you lose automatically, and you should make a penance.
Task 2.- Read a short explanation about the topic.

In 1895, Wilhelm Conrad Röentgen had discovered X-rays, they are used in medicine and dentistry to diagnose some diseases that clinically can’t be observed, this procedure consists on an electromagnetic radiation spectrum with a high energy that is targeted to a specific tissue; this process takes place in an evacuated glass envelope called X-ray tube. (The Nobel Prize, 2019)

Task 3. Work in pairs, ask and answer the following questions.

1. How important is this discovery to the dental practice? / Why?
2. How often do you use this diagnostic mean in your daily practice? Which procedures need a previous radiograph?
Task 4. Read the following text about dental radiology. Discuss about it with your classmates and teacher.

Dental radiographs play an indispensable role during the diagnosis of oral and maxillofacial diseases clinically not visible; this will help you making a successful diagnosis, however, it's necessary to know profoundly about normal anatomy of maxillofacial structures. Radiolucent and radiopaque images are obtained from this process which comes from invisible rays with a high energy that bombard anatomic structures being radiographed.

**Periapical radiography**

It’s an interoral kind of radiography which depict 3-4 teeth and anatomic structures around them in a periapical film, there is two techniques to obtain a periapical radiography:

The paralleling technique: the periapical film must be stood parallel to the long axis of the teeth and the X-ray tube is aimed at the same angles of the teeth being radiographed and periapical film. There exist some paralleling instruments with a ring to aim the X-ray cone according to film and teeth position, in a parallel relationship.

The bisecting-angle technique: the periapical film must be stood as close as possible to the palatal/lingual surface of the teeth being radiographed and the X-ray tube is aimed at its apex, forming an angle.

You are able to take a periapical radiography if you need to evaluate periapical and periodontal tissue after trauma or just for health, in a surgical and endodontic treatments, to evaluate the presence of apical pathologies within the alveolar bone, to see the presence or absence of unerupted teeth.

**Panoramic radiography**

It allows you to obtain a two-dimensional view of jaws and their surrounding structures, there exist an amazing device called orthopantomograph, where head’s patient is positioned between X-ray generator, it’s useful to diagnose presence or absence of unerupted teeth, evaluation of maxillofacial development and growth, evaluation of relationship of lower and upper teeth with
Task 5. Read the following situation and answer the questions:

A patient comes to the dental clinic expressing a constant pain in the lower right teeth lateral incisor (4.2) without evident clinical symptoms.

a) According to the text in task 3, What kind of radiograph is necessary in this case? / Why?

b) Write about biosafety and position of the patient and position of the film.

________________________________________________________
________________________________________________________
________________________________________________________
________________________________________________________
________________________________________________________
________________________________________________________
________________________________________________________

Task 6. Close your book. Listen to audio 7 and try to understand the main ideas. Then, watch video 7 to complete the following statements about X-ray.

1. _________ or x-rays are important tools the dentist uses to help care for your teeth.
2. Many _______ cannot be seen with a _______ but an x-ray can _______ small _______ between the teeth are hidden by _______, _______ in the bone, periodontal disease, _______ or _______ and even _______.
3. ________ is key to save time, money and _______.

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4. Dental x-rays expose a small part of the body to a 12_____ _____ of radiation, a leaded apron with a 13_________ _____ is recommended for children and women who are 14_________ or of 15_________ _____ to help minimize that exposure even more.

5. Your 16______ _____ determines the number of 17_______ that need to be taken, talk to your dentist if you have any questions.

Task 7. Vocabulary. Write the translation of the following words into Spanish, and make a sentence with each one.

1. Abnormal growths: ________________________________

2. Ailment: _______________________________________

3. Barrier: _______________________________________

4. Beam: _________________________________________

5. Joint disturbances: ______________________________

6. Pinpoint: ______________________________________

7. Scatter radiation: _______________________________

8. Surrounding area: ______________________________

9. Suspect/ suspicion: ______________________________

10. Swelling: _____________________________________

Task 8. Reinforcement. Choose the correct number of the following anatomic structures in the picture below and match it with the name of that anatomic structure.

_____ Anterior nasal spine
_____ Maxillary tuberosity
_____ Orbital rim
_____ Coronoid process
_____ Infraorbital canal
_____ Ear lobe
_____ Nasal cavity

_____ External auditory canal
_____ Styloid process
_____ Mandibular condyle
_____ Hyoid bone
_____ Zygoma
_____ Inferior nasal concha
_____ Inferior border of mandible
<table>
<thead>
<tr>
<th>Structure</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dorsum of tongue</td>
<td>Cervical vertebra</td>
</tr>
<tr>
<td>Mandibular angle</td>
<td>Pterygoid process of sphenoid bone</td>
</tr>
<tr>
<td>Mandibular canal</td>
<td>Pterygopalatine fossa</td>
</tr>
<tr>
<td>Hard palate</td>
<td>Zygomatic arch</td>
</tr>
<tr>
<td>Maxillary sinus</td>
<td>Soft palate</td>
</tr>
<tr>
<td>Articular tubercle</td>
<td>External oblique ridge</td>
</tr>
<tr>
<td>Mental foramen</td>
<td>Submandibular fossa</td>
</tr>
<tr>
<td>Nasal septum</td>
<td>Incisive foramen</td>
</tr>
<tr>
<td>Epipharynx</td>
<td>Sigmoid notch</td>
</tr>
<tr>
<td>Nasopalatine canal</td>
<td></td>
</tr>
</tbody>
</table>

Fig. 26: Anatomic structures  
Source: (Altug & Ozkan, 2011)
LESSON 8

RADIOGRAPHIC DIAGNOSIS OF DENTAL AND MAXILLOFACIAL PATHOLOGIES

Fig. 27: Panoramic radiograph
Source: (Altug & Ozkan, 2011)

Task 1. Look at the picture and talk about it.

Task 2.- Read a short explanation about the topic.

During the diagnosis of oral and maxillofacial diseases, clinical and radiological data play a major role. A successful diagnosis and evaluation of clinical examination are generally up to a profound knowledge of the normal anatomy of the region. (Altug & Ozkan, 2011)

Task 3. Work in pairs, ask and answer the following questions.

1. Talking about oral and maxillofacial pathology, Do you think is more important a clinical or a radiological diagnosis? Why?
2. How do you know that there is a radiographic lesion in the jaws? Explain.
3. What kind of images do you normally see in a radiography?
Task 4. Read the following text about radiographic description of oral and maxillofacial pathology. Discuss about it with your classmates and teacher.

Radiolucent/radiopaque lesions of the jaws

Odontogenic cysts and tumors present problems of diagnosis, radiology and histopathology. In general, their differential diagnosis requires radiographic clinical data, since many of them possess similar histological characteristics. Radiologic appearance of jaw cysts and odontogenic tumors varies considerably. The common lack of physical findings and the development of most of these lesions within the confines of the bone make radiologic investigation and interpretation uniquely important. Radiographs are also important in treatment planning for surgical removal. They can evaluate encroachment on vital structures, extent into soft tissue, size of the lesion, and requirements for reconstruction. Radiography allows for creation of a radiologic differential diagnosis. (Escobar, Godoy, & Peñafiel, 2007)

Radiolucent lesions of the jaws

- Dental granuloma
- Radicular cyst: Radiographically, radicular cyst appears well defined radiolucent area. Infection of a cyst causes resorption of the surrounding tissue.
- Dentigerous cyst: It surrounds the crown of an impacted tooth, caused by fluid accumulation between the reduced enamel epithelium and the enamel surface.
- Keratocystic odontogenic tumor: It grows in anterior-posterior direction within medullary cavity of the bone without causing obvious bone expansion. Radiographically, it is well defined radiolucent area with smooth corticated margin.
- Lateral periodontal cyst: Radiographically, it appears as a well circumscribed radiolucent area located laterally to the roots of vital tooth.
- Ameloblastoma: Radiographically, it is typically form rounded, cyst-like, radiolucent area appear multilocular.
- Incisive canal cyst
- Simple bone cyst
- Central giant cell granuloma: The lesion is more common in the anterior part of mandible with a tendency to cross the midline. In the early stage, the lesion manifests as a small unilocular lucent lesion. However, with development, it appears multilocular with fine trabeculae.
- Odontogenic myxoma: the odontogenic myxoma may produce several types: unicystic, multilocular, pericoronal and radiolucent-radiopaque and it is close resemblance to soap bubble-like picture of ameloblastoma.
- Solitary eosinophilic granuloma: Radiographically, the lesion has rounded radiolucency and an appearance of teeth floating air.

Radiopaque lesions of the jaws

- Odontoma: Radiographically, it is seen as a radiopaque mass surrounded by thin radiolucent space.
- Torus
- Osteoma
- Osteochondroma
- Cementoblastoma: Radiographically, here is typically a radiopaque mass with a thin radiolucent margin with the root of the tooth. The mass may be rounded or irregular in shape.
- Fibrous dysplasia (late stage)

Mixed radiolucent/radiopaque lesions of the jaws

- Fibrous dysplasia (early stage)
- Ossifying fibroma: Radiographically, early lesion is radiolucent with varying degrees of calcification and has well circumscribed margins.
- Cemento-osseous dysplasia
- Chronic osteomyelitis
- Osteosarcoma
- Metastasis
- Focal osseus dysplasia: e lesion is well defined by radiolucent borders and an unilocular dense radiopaque appearance
- Dentigerous cysts. (Altug & Ozkan, 2011)
Task 5. Write a summary including the most common lesions of the jaws according to your point of view.

________________________________________________________________________________________________________________________________________________________

Task 6. Close your book. Listen to audio 8 and try to understand the main ideas. Then, watch video 8 to complete the following statements about radiographic tips for diagnosis.

1. You need to understand that when you take an 1______ the 2______ is 3______ facial to lingual, but the 4______ is read 5______ to 6______ because all 7______ ________ except the 8______ _______ and 9______ _______ are two to three times as wide facial lingually.

2. Most of the variations in 10______ occur in that plane and are not 11______ _______ on the 12______.

3. If the need arises, a 13______ _______ can show you anatomy you can’t see on a 14______ _______.

4. The 15______ _______ of this 16______ are not on the film, if you are going into the 17______, you need to have an image of the 18______ _______.

5. Here you see a 19______ _______ on the 20______ of this tooth and around the 21______ _______ _______ and actually this case has a 22______ _______ which we 23______ _______ in this film.

6. Here is a 24______ _______ which shows clearly the 25______ _______ in this 26______ _______ which is going to expose the pulp.

7. You see that the 27______ _______ of this tooth are 28______ _______ and not formed there for conventional 29______ _______ on this tooth would be impossible to obtain fortunately, for this patient we were able to do 30______ _______ of pulp.

8. Here you see the tooth two years after the treatment and the 31______ _______.

9.

Fig. 28: Video 8
Source: (Dentsply Sirona Endodontics US, 2014)
Task 7. Vocabulary. Write a sentence using each word in the box according to the topic of the lesson.

<table>
<thead>
<tr>
<th>1. cysts</th>
<th>2. lack of</th>
<th>3. bone</th>
<th>4. encroachment</th>
<th>5. smooth</th>
<th>6. resemblance</th>
</tr>
</thead>
</table>

1. __________________________________________________________________________
2. __________________________________________________________________________
3. __________________________________________________________________________
4. __________________________________________________________________________
5. __________________________________________________________________________
6. __________________________________________________________________________

Task 8. Reinforcement. How good are you at describing radiographic images?

Instructions:

- Each person will pass a ball or anything and whoever falls should make a diagnosis of an image.
- Make a diagnosis of the image that is presented with a maximum time of 30 seconds.
- The people who don’t respond must fulfill a penance and others will be awarded with sweets.

Fig. 29: Diagnosis
Source: (Altug & Ozkan, 2011)
Task 2. Read a short explanation about the topic.

Premature loss of primary molars can cause a number of undesirable consequences including loss of arch length, insufficient space for erupting premolars and mesial tipping of the permanent molars. (Hany, 2014)

Task 3. Work in pairs, ask and answer the following questions.

1. What do you think about the consequences of premature baby tooth loss?
2. What situation do you agree with premature baby tooth extractions in?
3. What considerations do you take into account to do a pulpectomy procedure?
Task 4. Read the following text about pulpectomy. Discuss about it with your classmates and teacher.

Pulpectomy, refers to the procedure of removing the whole contents of the chamber pulp and its root canal. In pulpectomy, the root canals are then filled with specific substances that to protect against recurrent infection. Pulpectomy can be total, where the whole pulp is removed until the apical foramen, or partial, where a pulp with an open apex or an incompletely formed root is formed. The main objectives of pulpectomy are to clean the root canals, obturate them, protect them from potential infection, and subsequently promoting healthy development of physiological roots.

Prior to a pulpectomy procedure, dentists should be aware of the primary anatomy of the root canals of the teeth to be operated, and to meticulously evaluate the proximity of the succedaneum’s dentitions. Getting started, a local anesthetic agent to be injected and a rubber dam is to be applied to prevent transmission of bacteria from the rest of the oral cavity. The caries is to be then removed until the exposure area can be identified. Thereafter, a fissure bar is utilized to remove the pulp chamber roof. An excavator is then used to remove both the coronal and radicular portions of the dental pulp, respectively. Having the roof, radicular portion, and cranial portion all removed, the root canal is cleansed using an H-files. Saline is then irrigated into the root canal to ensure cleansing, and formocresol is subsequently placed. After that, zinc oxide is applied to prevent infection. Obturation of the canal roots is the supposed next step and can be performed via various techniques such as lentulo spiral technique, incremental fill technique, and endodontic pressure syringe technique. A ZOE cement is then filled into the root canal and a stainless-steel crown is inserted to restore the operated tooth. (Baik, y otros, 2018)

<table>
<thead>
<tr>
<th>Technique</th>
<th>Pulpectomy</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Indications</strong></td>
<td>Removing the whole contents of the chamber pulp and its root canal.</td>
</tr>
<tr>
<td>- Non vital teeth</td>
<td></td>
</tr>
<tr>
<td>- Furcation</td>
<td></td>
</tr>
<tr>
<td>- Coronal and radicular involvement</td>
<td></td>
</tr>
</tbody>
</table>
Task 5. Write a summary of pulpectomy procedure in task 3, include indications about pulpectomy.

<table>
<thead>
<tr>
<th>Complications</th>
<th>- Dental abscess</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>- Irreversible pulpitis</td>
</tr>
<tr>
<td></td>
<td>- Primary teeth with necrotic pulp</td>
</tr>
<tr>
<td></td>
<td>- Pulpless primary teeth with need to arch maintenance</td>
</tr>
<tr>
<td></td>
<td>- Absence of underlying cysts</td>
</tr>
<tr>
<td></td>
<td>- Anesthesia adverse effects</td>
</tr>
<tr>
<td></td>
<td>- Tooth discoloration</td>
</tr>
<tr>
<td></td>
<td>- Local infection</td>
</tr>
<tr>
<td></td>
<td>- Pain</td>
</tr>
<tr>
<td></td>
<td>- Local bleeding</td>
</tr>
<tr>
<td></td>
<td>- Tooth fracture</td>
</tr>
<tr>
<td></td>
<td>- Tooth loss</td>
</tr>
</tbody>
</table>

(Baik, y otros, 2018)

Task 6. Close your book. Listen to audio 9 and try to understand the main ideas. Then, watch video 9 to complete the following statements about Pulpectomy.

1. Endodontics is a specialized area of Dentistry focused on treating 1________ or 2________ to the 3_________–

2. Here is a 4________, inside the tooth under the 5________ is a hard tissue called 6________ inside the dentin is a soft tissue called pulp.
3. the pulp contains the 7_______ _______ and 8_______ ________, it extends from the
crown of the tooth into the roots of your 9_______.

4. If the pulp becomes 10_______ or 11_______ an opening is made 12_______ the crown
of the tooth and into the 13_______ _______, fluid is put in the 14_______ to 15_______
any bacteria and help 16_______ _______ _______.

5. The pulp is 17_______ using small instruments, the endodontist carefully cleans and
18_______ the canals, after the space is cleaned and shaped.

6. The endodontist 19_______ and 20_______ the root canals in most cases a 21_______
_______ is placed to close the opening until you see your dentist.

7. You must return to your dentist to have your tooth 22_______ _______ with a filling or
23_______ that protects the tooth and is important to ensure the success of your 24_______
_______ _______.

Fig. 31: Video 9
Source: (Implantologia, 2015)

Task 7. Vocabulary. Write a sentence using each word in the box according to the topic of
the lesson.

1. ________________________________________________________________
2. ________________________________________________________________
3. ________________________________________________________________
4. ________________________________________________________________
5. ________________________________________________________________
6. ________________________________________________________________
7. ________________________________________________________________
8. ________________________________________________________________
9. ________________________________________________________________

1. debris 2. undesirable 3. arch length 4. tipping
5. obturate 6. succedaneum’s dentitions 7. rubber dam 8. thereafter
9. fissure bar 10. pulp chamber roof 11. excavator 12. saline
13. stainless-steel crown

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10. __________________________________________________________________________
11. __________________________________________________________________________
12. __________________________________________________________________________
13. __________________________________________________________________________

Task 8. Reinforcement. Draw a line to match the picture with the correct description of contraindications about pulpectomy.

![Fig. 32: Contraindications about pulpectomy](image)

Source: (Hany, 2014)

| a) adly decayed primary molar. | b) Extensive root resorption (white arrow: Internal resorption, yellow arrow: External resorption) | c) External resorption of the distal root is the fate of chronic periodontitis | d) Total pulpectomy of the mesial root and partial pulpectomy of the distal root of primary 1st mandibular molar having radiolucencies in the periapical zone. |
Lesson 10

PULPOTOMY

Task 1. Look at the picture and talk about it.

Fig. 33: A clinical case of child at: (a.) Preoperative Rö.gr - deep carious lesion on tooth 54; (b.) Postoperative Rö.gr on tooth 54 after 6 months.
Source: (Kabaktchieva & Gateva, 2009)

Task 2.- Read a short explanation about the topic.

Teeth pulps are necessary for healthy physiological apexogenesis particularly in early-formed permanent teeth with immature roots. (Baik, y otros, 2018)

Task 3. Work in pairs, ask and answer the following questions.

1. Do you think a long-term maintenance of the pulp is necessary to preserve an adequate crown-root ratio, and subsequently an adequate function? Why?
2. If you have a coronal inflamed pulp, from your point of view, what is the better conservative treatment?
3. What considerations do you take into account to do a pulpotomy procedure? At least name two ones.
Task 4. Read the following text about Pulpotomy. Discuss about it with your classmates and teacher.

Pulpotomy is the procedure of removal of the coronal part of the dental pulp followed by application of a medicament. To perform pulpotomy, a local anesthetic is initially injected at the site of procedure and a dental rubber dam is applied to isolate the surgical field, the first step of the procedure is to remove the visible dental caries until the pulp chamber is accessed. A cotton piece is then inserted to stop any potential bleeding. Once the dentist feels a dip, he begins side to side movement to extent the dental roof. Getting the pulp clearly accessible, the dentist removes its coronal pulp using an excavator or a round bar. After that, the dental medicament is inserted. The most common used dental medicaments for this procedure are ferric sulphate or formocresol. At this moment, the cotton is removed, and the dentist ensures there is no bleeding points. Because pulpotomy implies manipulation of the deep part of the dental pulp, acute or chronic pulpitis is a potential consequence and, therefore, zinc oxide eugenol (ZOE) should be applied to the dental chamber to provide a temporary sedating effect. Finally, a stainless-steel crown is inserted, and coronal restoration is placed. (Baik, y otros, 2018)

<table>
<thead>
<tr>
<th>Technique</th>
<th>Pulpotomy</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Removal of coronal part of dental pulp followed by application of a medicament</strong></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Indications</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Vital teeth</td>
</tr>
<tr>
<td>- Healthy periodontium</td>
</tr>
<tr>
<td>- Only coronal involvement</td>
</tr>
<tr>
<td>- Contraindicated extraction</td>
</tr>
<tr>
<td>- Absence of infection/abscess</td>
</tr>
<tr>
<td>- Absence of fistula</td>
</tr>
<tr>
<td>- Absence of spontaneous pain</td>
</tr>
<tr>
<td>- Absence of involvement of pulp floor</td>
</tr>
<tr>
<td>- Absence of interradicular bone loss</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Complications</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Anesthesia complications</td>
</tr>
<tr>
<td>- Tooth fracture</td>
</tr>
<tr>
<td>- Tooth discoloration</td>
</tr>
<tr>
<td>- Persistent pain</td>
</tr>
</tbody>
</table>

(Baik, y otros, 2018)
Task 5. Write a summary of pulpotomy procedure in task 3, include complications about pulpotomy.

______________________________________________________________________________

______________________________________________________________________________

______________________________________________________________________________

______________________________________________________________________________

______________________________________________________________________________

______________________________________________________________________________

Task 6. Close your book. Listen to audio 10 and try to understand the main ideas. Then, watch video 10 to complete the following statements about pulpotomy.

1. In primary teeth when _______ _______ are in the nerve or close to the nerve, it's sometimes necessary to _______ a _______.

2. A pulpotomy is the _______ of the irritated part of the pulp while _______ the healthy root canals _______.

3. A pulpotomy usually involves four common steps, first we _______ an _______ into the tooth and _______ the part of the nerve in the _______ of the tooth.

4. Next we place medication to promote _______ and then we _______ the tooth to _____ it and protect it.

5. The first thing we do is make sure they're _______ _______ we place a _______ ____ around the tooth to _____ it from the rest of the mouth.

6. It protects like a safety _______ nothing can fall to the back of the _______.

7. The _______ _______ we make an opening through the top of the tooth down into the pulp _______.

8. We carefully _______ _______ the nerve tissue and then place a _______ _______ sometimes the medicated packing is removed and sometimes it's left in place.

Fig. 34: Video 10
Source: (smoothdentist, 2009)
Task 7. Vocabulary. Write the translation of the following words into Spanish, and make a sentence with each one.

<p>| | | | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>crown</td>
<td>2</td>
<td>thoroughly</td>
<td>3</td>
<td>numb</td>
</tr>
<tr>
<td>4</td>
<td>throat</td>
<td>5</td>
<td>clean out</td>
<td>6</td>
<td>surgical field</td>
</tr>
<tr>
<td>7</td>
<td>bleeding</td>
<td>8</td>
<td>isolate</td>
<td>9</td>
<td>dip</td>
</tr>
<tr>
<td>10</td>
<td>round bar</td>
<td>11</td>
<td>healing</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

1. __________________________________________
2. __________________________________________
3. __________________________________________
4. __________________________________________
5. __________________________________________
6. __________________________________________
7. __________________________________________
8. __________________________________________
9. __________________________________________
10. _________________________________________
11. _________________________________________

Task 8. Reinforcement

**Hanged (game)**

Instructions:

A player thinks about two words, phrases or sentences and the other tries to guess it, according to pulpotomy’s indications. Switch the roles.

The game ends when:

• The player completes the word, or guess the complete word correctly

• The other player completes the diagram:

1. ______________________
2. ______________________

---

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ORAL CANCER

Task 2. Read a short explanation about the topic.

Oral cancer is a malignant neoplasia, known like squamous carcinoma cell due to its origin, is one of ten most common cancers, his diagnosis is later and the treatment is expensive, it has a bad prognostic, more incident in male sex than female sex, it is developed in lips, tongue, gums, floor of the mouth, parotid and salivary glands. It has a high predilection of doing metastasis in lymphatic nodules. (Rivera, 2015)

Task 3. Work in pairs, ask and answer the following questions.

1. Have you ever seen the presence of squamous carcinoma cell?
2. From your point of view, what are the most common causes of oral cancer?
Oral cancer is a malignant neoplasia which arises on the lip or oral cavity. It is traditionally defined as a squamous cell carcinoma (OSCC), because in the dental area, 90% of cancers are histologically originated in the squamous cells. It has different levels of differentiation and a propensity for lymph node metastasis.

**Epidemiology**

Oral cancer is two to three times more prevalent in men than women in most ethnic. According to the latest reports of the International Agency for Research on Cancer (IARC) for oral cancer (ICD-10 code C00-08: Lip, Oral Cavity) which includes lips, tongue, gingiva, mouth floor, parotid and salival glands, annual incidence is higher around the world, which is over 300,000 diagnosed cases, and the annual mortality is about 145,000 death.

**Risk factors**

Oral cancer is a preventable disease, where smoking and alcohol-considered major risk factors are present in 90% of cases, having them both a synergic effect.

**Tobacco**

In 2007 the IARC concluded that “there is quite evidence to establish that snuff smoke is carcinogenic, and for example, it causes cancer of the oral cavity and pancreas”. The risk for developing oral cancer is 3 times higher in smokers compared with nonsmokers. Cigarette smoke weakens immunity in the oral cavity by promoting gingivitis, periodontitis and oral cancer. This smoke contains several elements that promote cancer and they basically can be grouped into three distinct groups: nitrosamines, benzopyrenes and aromatic amines.

**Alcohol**

Alcohol (ethanol) can act as a both locally and systemically risk factor: increased permeability of oral mucosa, dissolving lipids components of the epithelium, causing epithelial atrophy and
interference in DNA synthesis and repair; it also has genotoxicity and mutagenic effects, causing decreased salivary flow, affects the liver’s ability to deal with toxic or potentially carcinogenic compounds, and their chronic use is associated with an impairment of innate and acquired immunity, resulting in increased susceptibility to infections and neoplasms.

Other factors

Among other risk factors, there is the human papillomavirus (mainly associated with carcinoma of the oropharynx and ultraviolet radiation (UV). The IARC classifies human papillomavirus 16 (HPV16) as a cause for cancers of the oral cavity and pharyngeal tonsils, and HPV18 as possible causes of oral cancer. The most-common sites of HPV-related head and neck squamous cell carcinoma (HNSCC) are the tonsils and base of tongue within the oropharynx. Ultraviolet radiation, mainly the UVB is also involved in lip cancer. (Rivera, 2015)

Task 5. Write a summary about risk factors of oral cancer.

____________________________________________________________________________
____________________________________________________________________________
____________________________________________________________________________
____________________________________________________________________________
____________________________________________________________________________
____________________________________________________________________________

Task 6. Close your book. Listen to audio 11 and try to understand the main ideas. Then, watch video 11, are the following sentences true (T) or false (F)? Correct wrong sentences.

1. At the end of the oral evaluation you should ask your patient if any new dental issue has emerged since his/her last visit. ( )
2. It’s important to pay attention to risk factors such as be female sex, elderly age, alcoholic and sugar consumption. ( )
3. The oral evaluation is performed by the means of a visual and tactile intraoral and extra oral exam. ( )
4. Changes in color, consistency, function, irregular contours, asymmetry, diameter more than 6 mm, and the evolution over the time are indispensable to recognize an oral cancer.

5. Lips indurations and ulcerations are important for oral evaluation.

6. It’s important to look and palpate lateral and ventral tongue, nearby salivary glands because a half of all malignant lesions are usually found in this area.

7. You don’t have to palpate and inspect the floor of the mouth.

Task 7. Vocabulary. Write the translation of the following words into Spanish, and make a sentence with each one.

1. misdiagnosis
2. carcinoma in situ
3. tongue
4. white plate
5. triggering factors

Task 8. Reinforcement. Find the following words in the crossword regarding some oral premalignant neoplasm.

- Lichen planus
- Erythroplakia
- Leukoplakia
- Submucous fibrosis
- Squamous Papilloma
- Actinic Cheilitis
Cleft lip and palate (CLP) is the most common orofacial malformation affecting one in every 700–1000 newborns worldwide. The anomaly is characterized by the lack of continuity of tissues forming the lip, alveolus, and soft and hard palate.

Task 2. Read a short explanation about the topic.

Cleft lip and palate (CLP) is the most common orofacial malformation affecting one in every 700–1000 newborns worldwide. The anomaly is characterized by the lack of continuity of tissues forming the lip, alveolus, and soft and hard palate.

Task 3. Work in pairs, ask and answer the following questions.

3. Have you ever seen the presence of cleft lip and palate in the same patient? Or in a different one. Explain.
4. From your point of view, what are the most important consequences of cleft lip and palate?
5. Do you think that people affected by this pathology has psychological repercussions?
Task 4. Read the following text about cleft lip and palate. Discuss about it with your classmates and teacher.

Cleft lip and palate (CLP) is the most common congenital deformity of the orofacial. Clefts are thought to be of multifactorial etiology due to genetic and environmental factors. Different dental abnormalities are usually seen in cleft patients, including midface deficiency, collapsed dental arches, malformation of teeth, hypodontia, and supernumerary teeth. Moreover, feeding and speech are major functional dilemmas for those patients. The goal of treatment is to restore esthetics and functional impairments associated with clefts.

Classification of cleft lip and palate

Veau (1931) classified oral clefts based on the anatomy of the oral cavity into four groups:

1. Cleft of soft palate.

2. Cleft of soft and hard palate from incisive foramen up to the secondary palate.

3. Complete unilateral cleft from the uvula to incisive foramen, going on one side through the alveolus at the side of the future lateral incisor tooth.

4. Complete bilateral cleft from the incisive foramen to the alveolus, the premaxilla remains suspended from the nasal septum. (Zreaqat, Hassan, & Hanoun, 2017)

Cleft lip

The extent of the cleft lip is variable and can include the cleft alveolus, which can be complete or notched. Independent of the cleft lip type, the cleft palate is described as unilateral (one palatal shelf is attached to the nasal septum) or bilateral. The extent of the cleft is classified as complete, incomplete, or microform. In the complete cleft, there is disruption of the lip’s mucosal up to the nasal floor with the associated nasal deformity.

An incomplete bilateral cleft lip can be quite asymmetric. The severity of the cleft lip width can make the repair more difficult because of wound tension. In the complete unilateral cleft lip, there
is an external and upward rotation of the medial segment of the premaxilla and an internal and posterior rotation of the lateral segment. The nasal septum is dislocated from the vomerian groove with a shortening of the columella. The alar cartilage of the cleft side is deformed such that the medial crus is displaced posteriorly and the lateral crus is flattened over the cleft.

In the complete bilateral cleft lip deformity, the premaxilla and prolabium are entirely separate from the lateral lip and maxillary segments, the prolabium does not contain orbicularis oris muscle. (Shaye, Liu, & Tollefson, 2015)

**Cleft palate**

A cleft deformity can occur in both the primary and secondary palates. Clefts of the primary palate range from an alveolar notch to those that extend through the hard and soft palates. Clefts of the secondary palate range from a bifid uvula to clefts that extend to the incisive foramen. The soft palate consists of 5 muscles that are responsible for velopharyngeal closure, including the musculus uvulae, the palatoglossus, the palatopharyngeus, the tensor veli palatini, and the levator veli palatini. The levator veli palatini is the primary muscle involved in velopharyngeal closure. Normally, it originates from the Eustachian tube and inserts anteromedially onto the tensor aponeurosis, along with the tensor veli palatine. In the cleft palate, the levator muscles insert aberrantly onto the posterior edge of the hard palate. Contractions of the palatal muscles therefore become ineffective at closing the velopharynx. (Shaye, Liu, & Tollefson, 2015)

**Task 5. Rewrite the paragraph about cleft palate.**

______________________________________________________________________________
______________________________________________________________________________
______________________________________________________________________________
______________________________________________________________________________
______________________________________________________________________________
______________________________________________________________________________
Task 6. Close your book. Listen to audio 12 and try to understand the main ideas. Then, watch video 12 to complete the following statements about cleft lip and palate treatment, DynaCleft.

1. Souths medics Dyna 1______ and 2______ ________ are clinically proven pre surgical 3_________ for cleft lip, cleft 4_______ and nasal 5________.

2. Dyna cleft 6_______ across the cleft 7______ provides a controlled 8_______, repositioning the 9______ _______ pre maxilla and 10________ segments for the best possible 11________ ________.

3. The nasal elevator gently 12______ the nose 13_________ and straightening the 14__________, leading to improved 15_______ ________ and reducing the extent of or even the need for 16_______ ____________, as an effective treatment that is also easy to adjust and 17_______ patient 18______.

4. 19_______ _____ and 20_______ elevator are increasingly becoming the preferred 21__________________ by both clinicians and families.

Task 7. Vocabulary. Write the translation of the following words into Spanish, and make a sentence with each one.

<table>
<thead>
<tr>
<th>1. cleft lip</th>
<th>2. cleft palate</th>
<th>3. lengthening</th>
<th>4. notched</th>
</tr>
</thead>
<tbody>
<tr>
<td>5. disruption</td>
<td>6. force</td>
<td>7. width</td>
<td>8. groove</td>
</tr>
</tbody>
</table>

1. ____________________________________________________
2. ____________________________________________________
3. ____________________________________________________
4. ____________________________________________________
5. ____________________________________________________
6. ____________________________________________________
7. ____________________________________________________
8. ____________________________________________________
Task 8. Reinforcement. Use the correct diagnosis from the box. Identify the pictures and match the picture about cleft lip and palate with the correct number.

<table>
<thead>
<tr>
<th>Cleft lip + palate bilateral</th>
<th>Median cleft</th>
<th>Cleft lip unilateral</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lateral cleft</td>
<td>Cleft lip bilateral</td>
<td>Cleft lip + palate unilateral</td>
</tr>
</tbody>
</table>

Fig. 39: Cleft lip and palate diagnosis  
Source: (Shaye, Liu, & Tollefson, 2015)
**EXODONTIA**

Task 2. Read a short explanation about the topic.

Exodontia is a procedure that all dentists are taught to perform in dental school and used by most general clinicians in their practice. With the growth of implant dentistry because of its high success rate and predictability, more questionable teeth that in the past may have been salvaged through extreme endodontic or periodontic procedures are now extracted for implant placement. (Dym & Weiss, 2012)

Task 3. Work in pairs, ask and answer the following questions.

1. Have you ever recommended to preserve teeth through dental procedures or to extract them? Why?
2. Do you agree to extract teeth for implant placement or do you prefer to preserve them if it’s possible? Give two reasons at least.
Task 4. Read the following text about simple extraction. Discuss about it with your classmates and teacher.

In the process of a simple extraction, surgeons must exercise a great deal of finesse and a certain degree of controlled force to be able to deliver a simple tooth extraction.

**Definition**

Basic exodontia: simple luxation techniques, bone expansion, and forceps delivery

Complex exodontia: techniques used to remove teeth other than by simple luxation and forceps delivery

**Indications**

Surgical extraction usually involves 3 or more of the following steps:

1. Elevation of a mucoperiosteal flap
2. Ostectomy
3. Sectioning of the tooth
4. Luxation and removal of the roots
5. Removal of radicular pathologic condition when present
6. Debridement of the surgical field and the removal of sharp bony edges
7. Wound closure.

A simple extraction process involves minor alveolar bone expansion, separation of the periodontal ligament (PDL), and simple coronal forceps delivery of the tooth. Successful extractions also depend on the surgeon’s thorough and detailed understanding of the anatomy of the teeth involved, the root form, angulation, attachment of the teeth to the periodontal apparatus, and the bony structure underneath. As the tooth is being removed, the surgeon will be able to appreciate the lateral forces applied on the tooth’s roots and their effect on the alveolar bone. This recognition leads to avoidance of any excessive forces that would produce root and alveolar bone fractures. The patient needs to be positioned in the dental chair to allow for the surgeon’s optimal control and visibility. When extractions are being performed in the lower arch, it is preferable that the
patient’s mandible is positioned in a parallel line with the floor. Then the patient’s height should be adjusted up and down to allow for the mandible to be positioned at the same level at the surgeon’s elbow so that when the surgeon is performing the extraction, the forearm is parallel with the floor as well.

When extracting a maxillary tooth, the patient’s maxillary occlusal plane should fall at almost 60° angle with the floor. The surgeon’s position, relative to the patient’s position, varies as well, depending on which tooth is being extracted, and is also dependent on the surgeon’s dominant hand.

Typically, the surgeon starts by separating the superior portion of the PDL and then subluxating with an elevator. Choosing the right forceps is important to be able to grasp the cervical portion of the tooth and position it as apically as possible to try to shift the center of rotation toward the root. This positioning allows the most effective central bone expansion movement and prevention of the fracture of roots or crown at the same time. Sharp elevators and forceps are always more desirable to use because they engage the tooth in a more firm and predictable manner and prevent slippage and/or lack of efficient delivery of force. Pursuant to the separation of the PDL, one must find an appropriate purchase point for the elevator. The clinician must try to position the elevator between the bony socket wall and the tooth itself and direct the elevator in an apical direction trying to subluxate the root and push it coronally. Most of the time, an effective elevation prevents injuries. (Dym & Weiss, 2012)

Task 5. Write a paragraph about what post extraction instructions you have given to your own patients.
Task 6. Close your book. Listen to audio 13 and try to understand the main ideas. Then, watch video 13 to complete the following statements about Oral Surgery Simple Extraction.

a. After anesthetic technic, the explore is used to ensure that 1 ____________ are sufficiently 2 ____________, it means that the tooth is ready for 3 ____________.
b. The periosteal elevator will help to 4 ________________ around the 5 ____________.
c. The curette is useful to 6 ________________ within the socket; there could be an abscess or 7 ________________.
d. It’s necessary to irrigate the site with 8 ________________.
e. Finally, we need to put a gauze moisten it with 9 ____________ folding it into a 10 ____________, rolling it up.
f. The gauze needs to be placed around the 11 ________________.

Fig. 41: Video 13  
Source: (Dentist, 2015)

Task 7. Vocabulary. Write the translation of the following words into Spanish, and make a sentence with each one.

<table>
<thead>
<tr>
<th>1 numb</th>
<th>4 log</th>
<th>7 bone</th>
<th>10 bleeding</th>
</tr>
</thead>
<tbody>
<tr>
<td>2 debris</td>
<td>5 socket</td>
<td>8 dental bur</td>
<td>11 scalpel handle</td>
</tr>
<tr>
<td>3 moisten</td>
<td>6 needle</td>
<td>9 scalpel blades</td>
<td>12 bone file</td>
</tr>
</tbody>
</table>

1. ________________________________________________________________
2. ________________________________________________________________
3. ________________________________________________________________
4. ________________________________________________________________
5. ________________________________________________________________
6. ________________________________________________________________
7. ________________________________________________________________
8. ________________________________________________________________
9. ________________________________________________________________
10. ______________________________________________________________
11. ______________________________________________________________
12. ______________________________________________________________
Task 8. Reinforcement. Match the words in the box with the number of the correspondent picture and write down it.

Bayonett root forceps  maxillary forceps  mandibular forceps  scalpel handle
periosteal elevator  Minnesota retractor  scalpel blades  Farabeuf retractor
Metzenbaum scissors  dissecting forceps  straight elevator  triangular elevator
straight forceps  bayonet forceps  bone file  Luer Rongeur forceps
Allis tissue clamp  Adson forceps  surgical spoon curette  apexo elevator
Mayo-Hegar needle holder  anesthetic syringe  3-0 silk with 3/8 circle needle  surgical drill

Fig. 42: Instruments for exodontia
Source: (Gay Escoda, Sánchez Garcés, & Berini Aytés, 2015)

1_________________________________  15_________________________________
2__________________________________  16_________________________________
4__________________________________  17_________________________________
5__________________________________  18_________________________________
6__________________________________  19_________________________________
7__________________________________  20________________________________
8__________________________________  21________________________________
9__________________________________  22________________________________
10_________________________________  23________________________________
11_________________________________  24________________________________
Task 2. Read a short explanation about the topic.

The most common surgical procedure done in the dental clinics is the extraction of teeth, there are a number of factors that determine difficulties related to extractions, including root morphology and proximity to anatomical structures, bleeding, post-operative swelling and infection, (Bach & Woo, 2007) also prolonged operation duration, low serum albumin, and increased blood loss volume were associated with postoperative complications. (Shigeishi, Ohta, & Takechi, 2015)

Task 3. Work in pairs, ask and answer the following questions.

1. From your point of view, what is the most common complication after performance an extraction? Explain.
2. What complementary medical studies do you recommend before performing an extraction?
3. What considerations do you take into account to prevent a surgical complication?
Task 4. Read the following text about: Surgical local complications after performing an extraction. Discuss about it with your classmates and teacher.

Difficulties of extractions are multi-factorial. Depth and angle of impaction are obvious factors that should be assessed. Factors that are also important in the decision-making process are the age of the patient, general medical health, ethnicity, anatomy (trismus, tongue size, tooth structures), mental status (anxiety), and ability to cooperate. Extraction difficulty increases when the following conditions exist: dense supporting bone, difficult root morphology, teeth with large restorations or decay, adjacent teeth with large restorations, and brittle teeth associated with endodontic treatment.

Bleeding

One of the most common complications of all surgeries is post-operative bleeding. Post-operative bleeding from dental extraction is commonly due to venous bleed from nutrient blood vessels in the supporting bone but can also be due to an arterial source. Other causes of post-operative bleeding may include the failure to debride all granulation tissues from the socket, torn soft-tissue, and rebound vasodilatation following the use of epinephrine-containing anesthetics. Patient factors can also contribute to excessive and prolonged post-operative bleeding. Patients who are on medications such as Coumadin, Aspirin, Plavix, and chemotherapeutic agents may have prolonged bleeding. Patients who have uncontrolled hypertension, liver diseases, platelet deficiency, hemophilia, von Willebrand factor deficiency, or vitamin K-deficiency (from prolonged antibiotic intake or GI surgeries) may also pose a significant risk for post-operative bleeding.

Surgical Swelling & Infection

Post-operative soft-tissue swelling can be a normal part of the healing process. The wound heals by the inflammatory process, which has four cardinal signs: swelling, redness, pain, and heat. The initial clot serves as a wound protector as well as scaffolding for the formation of granulation tissues. Granulation tissues are highly vascularized tissue beds that help bring nutrients and fibroblasts to the wound for repair. Due to the increased blood flow, increased hydrostatic pressure, and increased transudate that contains all the immune cell types and chemotactic factors, swelling is ensured.
Dry Socket

Dry socket is also known as alveolar osteitis. It is delayed wound healing of the alveolar bone after dental extractions. It can be confused with normal post-operative pain. Dry socket is usually diagnosed on Post-Operative Day 3 to 5 when the pain suddenly intensifies instead of gradually decreasing. There is also a distinctive foul odor from the wound that the patient may complain about.

Sinus Perforation

The maxillary sinus is a potential source of complication during the extractions of upper molars. The floor of the sinus is usually the closest to the palatal root of the upper first molars. The floor of the sinus may be so close to the roots that part of it can be removed with the tooth during routine extractions. Other times, the sinus can be easily perforated during traumatic retrieval of broken root tips. One easy way to test for sinus perforation is to squeeze close the patient’s nostrils, then ask the patient to breathe out through their nose with their mouth wide open. If the sinus is perforated, air will leak from the nasal passage through the sinus into the oral cavity. Using indirect vision with the help of a mouth mirror, one would see bloody air bubbles.

Root Tip in Maxillary Sinus

As mentioned above, the floor of the sinus is closely associated with the maxillary molar roots. If a root tip is pushed into the sinus during extractions, place the patient in an upright position to allow gravity to draw the root tip closer to the perforation.

Nerve Injury

The inferior alveolar nerve and artery are both contained within the inferior alveolar canal. The course of this canal is such that it usually runs buccal and slightly apical to the roots of the mandibular molars. During extraction of the mandibular molars, due to the proximity of the roots, the nerve can be traumatized. Some radiological findings that predict this close proximity include
darkening or notching of the roots, deflected roots at the canal, narrowing of the roots, narrowing of the canal, disruption of the canal outline, and diversion of the canal from its normal course. (Bach & Woo, 2007)

Task 5. Enumerate the Surgical local complications after performing an extraction in task 3, and why do occur.

____________________________________________________________________________
____________________________________________________________________________
____________________________________________________________________________
____________________________________________________________________________
____________________________________________________________________________
____________________________________________________________________________
____________________________________________________________________________

Task 6. Close your book. Listen to audio 14 and try to understand the main ideas. Then, watch video 14 to complete the following statements about the most common oral surgery complication.

1. Probably, the most common 1_________ in removing 2_________ ______ other than 3_________, is a 4_______ ______.
2. Anyone that's had a dry socket has certainly 5_______ the word through all of their friends.
3. When we 6_______ a tooth 7_____, we would like a nice 8_______ ______ to fill in that 9_____, that's why you put a 10_______ in there to 11_______ the gum 12_______.
4. We put 13_______ on top for direct 14__________.
5. In some cases that 15_______ ______ can be 16_______ or maybe it doesn't form and just leaves a 17_______ ______.
6. That 18_______ ______ results in a 18_______ ______, it develops about three to five days after the 19___________.
7. Once the 20_______ ______ goes down if the 21__________ gets worse you may have a 22_______ ______.
8. In which case you go back to the 23__________ ______ and they can evaluate it, they can 24_______ ______ the extraction site and put a nice 25_______ ______ in there to 26_____ ______ of the pain.
Fig. 45: Video 15
Source: (Sequence, 2012)

9. If we did nothing it would be fine it would just last for about two to three weeks as it was.

Task 7. Vocabulary. Write the translation of the following words into Spanish, and make a sentence with each one.

1. dull throb
2. swelling
3. platelet
4. intake
5. brittle teeth
6. redness
7. clot
8. foul odor
9. retrieval
10. nostrils
11. root tip
12. leak
13. get rid
14. wisdom teeth

1. ________________________________________________________________
2. ________________________________________________________________
3. ________________________________________________________________
4. ________________________________________________________________
5. ________________________________________________________________
6. ________________________________________________________________
7. ________________________________________________________________
8. ________________________________________________________________
9. ________________________________________________________________
10. ________________________________________________________________
11. ________________________________________________________________
12. ________________________________________________________________
13. ________________________________________________________________
14. ________________________________________________________________
Task 8. Reinforcement. Tic tac toe

Indications

- Tic-tac-toe is a paper-and-pencil game for two players, x and o, who take turns to fill the gaps in a 3×3 grid.
- A statement about the oral surgery complications will be given and the person who raises the hand first will respond if it is false or true.
- If the person responds correctly he will play his game, otherwise nobody will play the game and we will jump to another statement.
- The player who succeeds in placing three of their marks in a horizontal, vertical, or diagonal row wins the game.

Materials:

- Blackboard
- Markers

Statements

1. Swelling can hopefully be controlled by just placing ice on the face T F
2. When you make an incision in the gum or anyone in the body you can have bleeding T F
3. Sometimes the roots develop further down around inferior alveolar nerve and that nerve can be injured. T F
4. In the upper jaw in particular you have a sinus and it's in front of your posterior teeth and sometimes the roots will actually be within the sinus floor T F
5. The lingual nerve innervates the anterior 2/3 of the tongue and sometimes when you're getting an injection for a filling you can get an electric shock T F
6. Probably the most common complication in removing wisdom teeth is a dry socket T F
LESSON 15

DENTAL PROSTHESIS

Task 1. Look at the picture and talk about it.

Task 2.- Read a short explanation about the topic.

Portraits of the first president of United States by Charles Willson Peale, having defeated the British and won the first election to the presidency, he was inaugurated in 1789 with one tooth in his mouth, a lower left bicuspид. He had a large collection of false teeth, made of everything from elephant ivory, walrus tusk, and hippopotamus tusk to the teeth of a fellow human. (Darnton, 2003)

Task 3. Work in pairs, ask and answer the following questions.

1. Do you know the causes for tooth loss?
2. Why is it important to ask about smoking before starting a prosthodontic treatment?
3. How indispensable is taking X-rays of the adjacent tissues and remaining teeth? Why?
Task 4. Read the following text about Prosthodontics. Discuss about it with your classmates and teacher.

Prosthetic dentistry is one of the fundamental pillars of dentistry. Even though it is highly specialized in replacement of missing teeth and adjacent soft and hard oral tissues, the cooperation with other branches of dentistry is very important. It usually provides final stages of rehabilitation of the whole maxillofacial system. The loss of several teeth can initiate serious problems related to the whole orofacial region, psychics and the wellbeing of the patient. From this point of view prosthetic dentistry is a valuable tool with high therapeutical and preventive character.

Modern prosthetics offers classical solutions with simple fixed and removable dentures, and advanced solutions with dental implants support for rehabilitation of dental defects. Final quality and prognosis of prosthetic treatment depends both on materials and technologies used and on the patients’ motivation and dental care. Superior esthetical demands and biocompatibility issues drive dental manufacturers to introduce new materials with defined properties. Nowadays the most sophisticated systems are based on ceramics, dental implants and CAD/CAM technologies.

The objective of prosthetic dentistry is the complex rehabilitation of the orofacial system – i.e. the rehabilitation of the masticatory function, phonetics and aesthetics. This complex rehabilitation is very important for a patient’s self-image. Prosthodontics deals with the replacement of lost teeth and the adjacent alveolar ridges and missing soft and hard maxillofacial tissues. The causes of these losses may be different. The loss of teeth caused by extractions or injuries is the main reason for such situations. Further reasons are: physiological processes during the aging, insufficient care on the part of the patient for oral health and hygiene.

**Classification of defects and types of prosthetic appliances**

The large variety of dental defects (over 4 billion) required simplification. Today’s dentistry uses several classification systems, which help in treatment planning.
Kennedy classification distinguishes four basic classes:

1. bilateral edentulous area

2. unilateral edentulous area

3. unilateral edentulous area with natural teeth remaining both anterior and posterior to it.

4. single edentulous area located anterior to the remaining natural teeth [7].

Modern prosthetic dentistry offers two ways of solution: with classical dental appliances and with dental implants.

Classical fixed and removable appliances can solve all dental defects. Dental implants, which replace natural roots, with added special prosthetic appliances, can replace under strict conditions, single missing teeth or whole groups of teeth, even the entire dentition. Implant-born prosthetic appliances may be fixed or removable and they always represent a high comfort for the patient.

**Fixed bridges**

Fixed bridges are dental appliances firmly luted on the natural teeth. They are indicated for gaps in the dental arch. Their characteristic feature is dental support, i.e. all masticatory forces during mastication act on the whole surface of the bridge construction and are transferred to the maxillofacial skeleton only by the periodontal tissues of dental abutments. Contraindications include extreme atrophic changes of periodontal tissues, chronic inflammations of the marginal gingiva, too low and too advanced age of the patient, progressive stages of a periodontal disease. Removable bridges are indicated for these patients.

Fixed bridges consist of construction elements, pontics and connectors. These constructions must have sufficient mechanical properties, responsible for retention in the oral cavity, and they must respect aesthetical demands.
Removable dentures

There are two types of removable dentures – partial dentures and complete dentures.

Removable partial dentures (RPD) RPDs with special indications are: removable bridges, saddle dentures, plate (acrylic) dentures and overdentures. Removable partial dentures with a metal cast framework are suitable for gaps and shortening of the dental arch. These RPDs provide mixed support (dento-mucosal).

Plate (acrylic) dentures are removable prosthetic appliances with simple wire clasps (retention), providing mucosal support.

Complete dentures

Total edentulousness means a considerable handicap for each patient from functional (mastication) as well as from the phonetic, esthetical, psychological and social point of view. There are two possible ways of rehabilitation of the total edentulousness in today’s dentistry: complete-dentures fabrication, and dental implant application with special prosthetic appliances (overdentures and hybrid dentures).

Complete dentures replace missing natural teeth and adjacent alveolar ridges. We deal with individual problems concerning denture support, retention and stability, inter-jaw relations and the arrangement of the artificial teeth. (Hubálková & Linetskiy, 2006)

Task 5. Rewrite the paragraph about complete dentures in task 3.
Task 6. Close your book. Listen to audio 15 and try to understand the main ideas. Then, watch video 15 to complete the following statements about three tooth replacement options.

a) A 1_________ ______ may cause the surrounding teeth to 2_______ or become 3_______ and can change your 4______, this can lead to cavities, 5_______ _______ and bite problems, a missing tooth in the 6____________ may even cause a tooth in the upper jaw to move 7________ into the 8_______ space.

b) It may also cause your face to look 9_______ or you may find it difficult to talk or 10______ food.

c) You have a few options to replace missing teeth depending on your specific needs your dentist may recommend 11________, 12________ or 12________ _______.

d) An implant is a replacement tooth that 13________ to your 14_______ with a 15____ that acts like a tooth 16________.

e) Implants can also help prevent 17________ of the jawbone that occurs from missing teeth.

f) Fixed are made from 18______, 19______ or a combination of the two, an artificial tooth called a 19________ takes the place of the lost natural tooth, 20_______ on either side of the 21_______ are bonded or 21________ to the adjacent teeth.

g) Removable partial denture typically have the 23________ ______ attached to a gum colored 24________, they attach to your natural teeth with either metal 25_______ or devices called 26__________ _______.

Fig. 48: Video 15
Source: (ADA, 2013)

Task 7. Vocabulary. Write the translation of the following words into Spanish, and make a sentence with each one.

<table>
<thead>
<tr>
<th>English</th>
<th>Spanish</th>
</tr>
</thead>
<tbody>
<tr>
<td>1walrus tusk</td>
<td>1tuscal de foca</td>
</tr>
<tr>
<td>2clasp arm</td>
<td>2arco de cierre</td>
</tr>
<tr>
<td>3autoglaze</td>
<td>3autoglaze</td>
</tr>
<tr>
<td>4fixed bridge</td>
<td>4ponte fijo</td>
</tr>
<tr>
<td>5saddle dentures</td>
<td>5dentadura de silla</td>
</tr>
<tr>
<td>6acrylic plate</td>
<td>6placa de acrílico</td>
</tr>
<tr>
<td>7framework</td>
<td>7estructura</td>
</tr>
<tr>
<td>8cast</td>
<td>8cera</td>
</tr>
<tr>
<td>9chew</td>
<td>9chew</td>
</tr>
<tr>
<td>10shrinkage</td>
<td>10empobrecimiento</td>
</tr>
</tbody>
</table>

1. ____________________________________________________________
2. ____________________________________________________________
3. ____________________________________________________________
4. ____________________________________________________________
Task 8. Reinforcement. Match the words 1-10 with the definitions a-j.

<table>
<thead>
<tr>
<th></th>
<th>1) abutment</th>
<th>2) bonded bridge</th>
<th>3) alveolar crest</th>
<th>4) reciprocal arm</th>
<th>5) anatomic crown</th>
<th>6) clasp arm</th>
<th>7) anatomic teeth</th>
<th>8) ackers clasp</th>
<th>9) autoglaze</th>
<th>10) attachment screw</th>
</tr>
</thead>
<tbody>
<tr>
<td>a)</td>
<td>It could be a tooth, or a portion of a dental implant that receives pressure and it is used to support and/ or retain a dental prosthesis.</td>
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<tr>
<td>b)</td>
<td>The bony portion of the maxillae or mandible where a tooth lost have occurred, as well known as residual crest.</td>
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<tr>
<td>c)</td>
<td>The portion of a natural tooth, visible clinically.</td>
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<tr>
<td>d)</td>
<td>No natural teeth, it’s designed to replace natural teeth, designed with cusps to articulate with the opposing teeth, in order to help in masticating process.</td>
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<tr>
<td>e)</td>
<td>A circumferential device, it clasps the abutment, it’s made of alloy for removable partial denture.</td>
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<tr>
<td>f)</td>
<td>A metal device used in fixed dental prosthesis to attach, retain and stabilize a fixed denture framework.</td>
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<tr>
<td>g)</td>
<td>The process in which the temperature is increased to produce a shiny ceramic surface in a fixed dental prosthesis.</td>
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<tr>
<td>h)</td>
<td>The well-known Maryland bridge is an adhesive fixed dental prosthesis.</td>
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<tr>
<td>i)</td>
<td>It’s opposite to retentive arm action allowing the removal of the removal partial denture.</td>
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</tr>
<tr>
<td>j)</td>
<td>It’s designed to retain a removable partial denture, also it’s the flexible part or a removable partial denture.</td>
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</tbody>
</table>
Task 2. Read a short explanation about the topic.

In 1815 UK: Teeth from the 50,000 soldiers killed in the battle of Waterloo were taken out and used to fabricate dentures, known as ‘Waterloo teeth’. Even though the use of porcelain teeth and new materials became more widespread, extracted human teeth were used until the 1860s to make dentures. (World Dental Federation, 2015)

Task 1. Look at the picture and talk about it.

Task 3. Work in pairs, ask and answer the following questions.

1. Would you like to make dentures with human teeth? Yes/No, Why?
2. What do you think is more esthetic human teeth or porcelain teeth? / Why?
3. Do you think people would accept human teeth in their artificial dentures? Yes/No, Why?

Fig. 49: ‘Waterloo teeth’
Source: (World Dental Federation, 2015)
Removable partial denture (RPD) is one of the various treatment options available for the replacement of teeth for partially edentulous patients. The major connector of an RDP is the component that connects the different parts of the RPD as well as can achieve numerous functions and influence the success of RPD. The variety of anatomic considerations related to the shape of the palate and gingival conditions may affect selection of maxillary major connector.

RPD success mainly depends on proper design and components selection. Maxillary major connector (MMC) is RPD component that fulfill various functions and important for RPD effectiveness.

The MC is the most important component of the partial denture framework to which all other components are attached.

Requirements: the choice of MMC type is based upon requirements include: rigidity, function, and hygiene

Types of Major Connector

It can be classified according to form, thickness, and position into bar, A-PP bar, strap, A-PP strap, U-shaped, and plate. The MCs used in maxillary RPD are mainly the A-PP strap, full palatal plate, palatal strap and u-shaped while bar type lest used.

Bar: bar is MC with least anteroposterior width varies from 4-8mm. Due to the decreased width; palatal bar to have the necessary rigidity for cross-arch distribution of stress and provide support in addition to should be symmetrically and have concentrated bulk.

A-P bar: A-P bar formed of anterior and posterior bars joined by flat longitudinal elements on each side of the palate. This configuration gives the effect of a circle and is considerably more rigid than any of the individual elements.
Strap: strap is a transverse palatal cover, normally 8-12 mm in width, and may extend up to 20 mm with proper thickness.

A-PP strap: A-PP strap comprise two transverse palatal straps (8 to 10 mm width) and two longitudinal parallel straps (6 mm width). This circle configuration (‘‘L-beam’’ effect) could be improved the connector rigidity because the straps are in 2 different planes therefore it favorite used for most maxillary partially edentulous situation.

U-shape: all major connector designs should have the potential to reduce torquing forces delivered to the abutments by loading a removable partial denture distal extension.

Plate: Palatal Plates usually extended and offer more palatal coverage than straps. A typical example of palatal plate indication is a Kennedy class I and wide maxillary edentulous areas when retention and maximum support were needed. (Gad, 2017)

**Task 5. Write a summary about Removable Partial Denture Designing in task 3; don’t forget to include types of major connectors.**

**Task 6. Close your book. Listen to audio 16 and try to understand the main ideas. Then, watch video 16 to complete the following statements about minor connectors.**

1. ________ _________ are those components that serve as the connecting ______ between the ______ _______ and other components of the partial denture.
2. This 4_____ is a 5_____ that connects the major connector to a rest.

3. The 6_____ is a minor connector that connects the base and the 7_____ to the major connector, and lastly the 8_____ shown here connects the major connector to this 9_____, these are all minor connectors.

4. There are 10_____ types of minor connectors, there are: those that join 11_____ to the major connector: those that join 12_____ to the major connector, those that join 13_____ or 14_____ to the major connector and those that serve as approach 15_____ for the 16_____.

5. The function of the minor connector is to 17_____ to the 18_____ , it also is to transfer the effect of the 19_____ and stabilizing components to the rest of the 20_____.

Fig. 50: Video 16
Source: (Windchy, 2014)

Task 7. Vocabulary. Write a sentence using each word in the box according to the topic of the lesson.

1. strut
2. clasps assemblies
3. base attachment
4. bar type clasp
5. abutment teeth
6. strut strength
7. link
8. fulfill
9. thickness

1. __________________________________________________________
2. __________________________________________________________
3. __________________________________________________________
4. __________________________________________________________
5. __________________________________________________________
6. __________________________________________________________
7. __________________________________________________________
8. __________________________________________________________
9. __________________________________________________________
Task 8. Reinforcement Broad Race

Instructions:

1. Split the class into two teams and give each team a colored marker.

2. If you have a very large class, it may be better to split the students into 2 teams.

3. Draw a line down the middle of the board and write a topic at the top.

4. The students must then write as many words as you require related to the topic in the form of a relay race.

5. Each team wins one point for each correct word. Any words that are unreadable or misspelled are not counted.

<table>
<thead>
<tr>
<th>Removable Partial Denture Designing</th>
</tr>
</thead>
<tbody>
<tr>
<td>Team 1</td>
</tr>
<tr>
<td></td>
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<tr>
<td>Team 2</td>
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</tbody>
</table>
Task 2. Read a short explanation about the topic.

The scholar Edward Hingley Angle (1899) classified Orthodontic malocclusion in the mesiodistal relationship of teeth. His classification system is still used to describe how crooked teeth are. (World Dental Federation, 2015)

Task 3. Work in pairs, ask and answer the following questions.

1. Name 6 malocclusions treated in Orthodontics.
2. Could you describe your type of occlusion?
3. Describe the Class I occlusion defined by Angle.
Task 4. Read the following text about malocclusions. Discuss about it with your classmates and teacher.

Occlusion is defined a manner in which the upper and lower teeth intercuspate between each other in all mandibular positions and movements. It is a result of neuromuscular control of the components of the mastication systems namely: teeth, periodontal structures, maxilla and mandibular, temporomandibular joints and their associated muscles and ligaments. An individual’s occlusal status is generally described by two major characteristics: intra-arch relationship, the relationship of the teeth within each arch to a smoothly curving line of occlusion and inter-arch relationship, the pattern of occlusal contacts between the upper and lower teeth.

The Angle method for the classification of malocclusion has been the gold standard in orthodontics for over 100 years. Arguably, Angle's classification is the most widely used and accepted occlusal classification system.

As described by Angle, in Class I molar relation, the mesiobuccal cusp of upper first permanent molar occludes with mesiobuccal groove of the lower first permanent molar. The distobuccal cusp upper first permanent molar occludes with mesiobuccal groove of the lower first permanent molar in the Class II and, in a Class III molar relation, the lower first permanent molar lies mesial to upper first permanent molar by a premolar width or a cusp width. The original classification had Class II as a full premolar width distoclusion and Class III as a full premolar-width mesioclusion. Assuming an average premolar width of 7.5 mm, then Class I ranged from 7 mm mesioclusion to 7 mm distoclusion, for a total range of Class I of 14 mm. This range was far too wide, and so in 1907, Angle revised his definition, making Class II more than half a cusp distoclusion and Class III more than half a cusp mesioclusion. (Yadav, y otros, 2014)

Task 5. Rewrite the third paragraph

___________________________________________________________

______________________________________________________________________________

___________________________________

______________________________________________________________________________

___________________________________

Task 6. Close your book. Listen to audio 17 and try to understand the main ideas. Then, watch video 17 to complete the following statements about malocclusions.

a) 1________ the upper teeth are 2______ _______ enough to fit on the outside of the lower teeth, this makes it difficult to bring the 3______ together the lower 4______.

b) In 5_____ excessive 6_______ the upper teeth are 7____ ______ in front of the lower teeth, if the 8_______ of the overjet is severe the 9_____ _____ may be subject to 10_____ and 11_______ may be affected.

c) An 12_______ is when the 13______ teeth are 14______ or not in front of the lower teeth, which makes it difficult to 15______ food and causes premature 16____ of the back teeth.

d) 17______ ______ sometimes referred to as an 18_______, a deep bite is when the 19______ ______ cover the lower teeth and the lower teeth 20______ into the 21____ of the mouth, this type of bite causes difficulty in the 22_______ of the lower 23____ and make us premature 24_______ of the 25____ ______.

e) An 26_______ ______ is when the front teeth do not 27______, this makes cutting or 28_______ food difficult or impossible, the 29_______ _____ are always touching and subject to premature 30______, this type of bite also causes speech problems and 31_______ _______ problems during 5______.

Fig. 52: Video 17
Source: (Movahhedian & Vaziri, 2015)
Task 7. Vocabulary. Write the translation of the following words into Spanish, and make a sentence with each one.

<table>
<thead>
<tr>
<th>English</th>
<th>Spanish</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. roof</td>
<td>Edad</td>
</tr>
<tr>
<td>2. aware</td>
<td>Consciente</td>
</tr>
<tr>
<td>3. jaw</td>
<td>Mandíbula</td>
</tr>
<tr>
<td>4. swallowing</td>
<td>Sorbería</td>
</tr>
<tr>
<td>5. thrusting</td>
<td>Empujando</td>
</tr>
<tr>
<td>6. width</td>
<td>Ancho</td>
</tr>
<tr>
<td>7. crooked</td>
<td>Curvado</td>
</tr>
<tr>
<td>8. joints</td>
<td>Juntas</td>
</tr>
<tr>
<td>9. groove</td>
<td>Huella</td>
</tr>
</tbody>
</table>

1. ____________________________
2. ____________________________
3. ____________________________
4. ____________________________
5. ____________________________
6. ____________________________
7. ____________________________
8. ____________________________
9. ____________________________

Task 8. Reinforcement. Write the correct name of Angles’s molar classification according to the pictures.

1. ____________________________
2. ____________________________
3. ____________________________
**Fig. 53: Malocclusions**

*Source:* (Yadav, y otros, 2014)
ANSWERS KEY SECTION

(Just for the teacher)
LESSON 1

Task 6. Listening

1. global 7. poor/diet 13. persist
2. emboss 8. tobacco 14. preventable
3. duties 9. widespread 15. avoidable
4. systemic diseases 10. buried 16. socio-economic
5. diabetics 11. high-income 17. promotion
6. risk/factors 12. health care systems

Task 7. Vocabulary

1. bienestar 4. negligencia 7. chequeos
2. resultado 5. dolencia
3. enterrado 6. alimentación

LESSON 2

Task 6. Listening

1. Gingivitis 12. periodontal/disease 24. food
2. bacteria 13. swollen 25. basic
3. plaque 14. bleeding/gums 26. acidic/environment
4. gums 15. loose 27. sugar
5. dentures 16. fit 28. starch
6. colorless/sticky/film 17. bone/loss 29. consistency
7. gums 18. recession 30. starchy
8. bacteria 19. pain 31. stick
9. toxin 20. silent 32. sucking
10. bad/breath 21. cavities 33. decay
11. gingivitis 22. dental/decay 34. brushing
12. plaque 23. 35. reduce

Task 7. Vocabulary

1. doloroso 4. labio leporino 7. almidonado
2. diseminado 5. pegajoso 8. absorber/suctionar
3. vigilancia 6. mal aliento 9. caries dental
Task 8. Reinforcement

Suggested words: Gingivitis, plaque, cleft lip, bad breath, Oral trauma, periodontal disease, bleeding gums, bone loss, recession, dental decay.

LESSON 3

Task 6. Listening

1. crown 11. middle 22. jawbone
2. grinds/ up 12. hollow 23. tiny/ elastic/ strand
3. hardest/ material 13. blood/ vessels 24. periodontal ligament
4. thin/ layer 14. alive 25. chew
5. enamel 15. pulp 26. wrapped
6. hard/ white/ shiny 16. nerves 27. cuff
7. Underneath 17. hole 28. gum tissue
8. pale/ yellow/ dentine 18. very/ end 29. gingiva
9. slightly/ softer 19. pulp/ canal
10. bone 20. pulp/ chamber

Task 7. Vocabulary

1. conformado por 6. espesor/grosor 11. tinte/ pintura
2. gusano 7. superficie interna 12. pulverizar
3. opaco/sin brillo 8. cámara pulpa 13. puño
4. rodear 9. hueco
5. amarillento 10. vasos sanguíneos

Task 8. Reinforcement

1. Apical foramen 6. Pulp chamber 10. Lingual surface of crown
4. Dentin 9. Dentinoenamel junction
5. Cementodentinal junction
LESSON 4

Task 6. Listening

1. Finding/tooth/aches 10. pull/back/lips 21. swellings
2. irreversibly 11. vestibule 22. pocketing
3. pulps 12. discolored/teeth 23. missing/teeth
4. asymptomatic 13. trauma 24. intensity
5. pulp/testing 14. lift up 25. opposing/teeth
6. pulp/sound 15. fornix 26. denying/examination
7. healthy 16. tattoos 17. old/silver/point
8. chief/complaint 18. gutta-percha 27. horizontal views
9. clinical/examination 19. sinus tract

Task 7. Vocabulary

1. leve 2. alambre
3. cráneo 7. colapso óseo 11. voltear
4. curar/cicatriz 8. doloroso 12. peligroso
5. dolor persistente 9. material de relleno
6. recostado 10. mordida

Task 8. Reinforcement

- I – 6 - b
- II – 4 - d
- III - 2 - f
- IV - 3 - a
- V - 7 - c
- VI - 1 - e
- VII - 5 - g

LESSON 5

Task 6. Listening

1. gingival fibers 5. bone 9. wraps
2. periosteum 6. periosteum 10. Circular
3. crest 7. membrane 11. ring
4. bundles 8. fibrous 12. cementum
13. connect
14. embedded
15. cementoenamel junction
16. fan out
17. Periosteal
18. periosteum
19. Intercircular
20. Interpapillary
21. papilla
22. transseptal
23. interdental papillae
24. Transgingival
25. Horizontally
26. Transseptal
cementum
alveolar bone
alignment

Task 7. Vocabulary

1. atar/unir
2. por debajo/subyacente
3. superficie
4. tronera
5. Haz de fibras/paquete de fibras
6. Revestimiento
7. incrustado
8. diseminar
9. unión
10. surco

Task 8. Reinforcement

1. Enamel
2. Gingival margin
3. Free gingiva
4. Free gingival groove
5. Attached gingiva
6. Mucogingival junction
7. Alveolar mucosa
8. Sulcus
9. Oral sulcular epithelium
10. Oral junctional epithelium
11. CEJ(cementoenamel juction)
12. Cementum
13. Periodontal ligament
14. Alveolar bone

LESSON 6

Task 6. Listening

1. aren’t/ aware
2. smokers
3. periodontal/disease
4. lose/ teeth.
5. infection
6. gums
7. bone
8. sticky/ film
9. Smoking
10. saliva
11. body’s/ ability
12. fight/ off
13. wash/ bacteria
14. plaque
15. tartar
16. disease/ fighting/
17. immune/ system
18. constrict
19. white/ blood/ cells
20. nutrients
21. gums
Task 7. Vocabulary

1. alvéolo pulmonar  
2. ritmo cardáco  
3. gasto cardíaco  
4. bolsa periodontal  
5. defenderse de  
6. tártaro/sarro  
7. dosis

LESSON 7

Task 6. Listening

1. Radiographs  
2. oral diseases  
3. visual examination  
4. reveal  
5. cavities  
6. fillings, infections  
7. abscesses or cysts  
8. tumors  
9. Early detection  
10. unnecessary  
11. low dose  
12. thyroid collar  
13. pregnant  
14. childbearing age  
15. oral health  
16. x-ra

Task 7. Vocabulary

1. crecimiento  
2. enfermedad/dolencia  
3. barrera  
4. haz/rayo  
5. desajuste articular  
6. detallar/localizar  
7. radiación dispersa  
8. área circundante  
9. sospechar/sospecha  
10. hincharzón

Task 8. Reinforcement

1. Anterior nasal spine  
2. Articular tubercle of the temporal bone  
3. Cervical vertebra  
4. Coronal process  
5. Dorsum of tongue (Shadow)  
6. Ear lobe  
7. Epipharynx  
8. External auditory canal  
9. External oblique ridge  
10. Hard palate  
11. Hyoid bone  
12. Incisive foramen  
13. Inferior nasal concha  
14. Inferior border of mandible  
15. Infraorbital canal  
16. Mandibular angle  
17. Mandibular canal  
18. Mandibular condyle  
19. Maxillary sinus  
20. Maxillary tuberosity  
21. Mental foramen  
22. Nasal septum  
23. Nasal cavity

LESSON 8

Task 6. Listening


Task 7. Vocabulary

1. quiste 2. falta de 3. hueso 4. intrusion 5. liso/delicado/regular 6. parecido/similar

Task 8. Reinforcement


LESSON 9

Track 6. Listening

22. properly/restored
23. crown

24. root/canal/treatment

**Task 7. Vocabulary**

1. detritos
2. indeseable
3. longitud del arco
4. inclinación
5. obturar
6. dentición
7. dique de goma
8. a partir de allí
9. fresa de fisura
10. techo de la cámara pulpar

**Task 8. Reinforcement**

1-c, 2-a, 4-d, 3-b

**LESSON 10**

**Track 6. Listening**

1. deep cavities
2. perform
3. pulpotomy
4. removal
5. leaving
6. intact
7. make
8. opening
9. remove
10. nerve
11. top
12. healing
13. crown
14. seal
15. thoroughly numb
16. rubber dam
17. isolate
18. net
19. throat
20. irritated tissue
21. chamber
22. clean out
23. medicated packing

**Track 7. Vocabulary**

1. poner una corona
2. completamente
3. anestesiado/anestesiar
4. garganta
5. limpiar
6. campo quirúrgico
7. hemorragia
8. aislar
9. caída (en cámara pulpar)
10. fresa redonda
11. cicatrización/curación

**Track 8. Reinforcement**

Suggested phrases: Vital teeth, Healthy periodontium, Only coronal involvement, Contraindicated extraction, Absence of infection/abscess, etc.
LESSON 11

Track 6. Listening

1. F/ Begin the exam by asking your patient if any new dental issues have emerged since their last visit
2. F/ Pay attention to risk factors such as being male
3. V

Track 7. Vocabulary

1. Diagnóstico erróneo
2. carcinoma in situ
3. Placa blanca
4. Lengua
5. Factores descencadenantes

Task 8. Reinforcement
LESSON 12

Task 6. Listening

1. cleft  
2. nasal elevator  
3. treatments  
4. palate  
5. deformity  
6. applied  
7. lip  
8. force  
9. pro labium  
10. alveolar  
11. surgical results  
12. lifts  
13. lengthening  
14. columella  
15. nasal symmetry  
16. primary nasal surgery  
17. improves  
18. comfort  
19. Dyna cleft  
20. nasal elevator  
21. pre surgical treatment

Task 7. Vocabulary

1. labio leporino  
2. paladar hendido  
3. alargamiento  
4. agujereado  
5. interrupción  
6. fuerza  
7. ancho  
8. surco/canal

Task 8. Reinforcement

1. Cleft lip unilateral  
2. Cleft lip + palate unilateral
3. lateral cleft  
4. cleft lip bilateral  
5. cleft lip + palate bilateral  
6. median cleft

LESSON 13

Task 6. Listening

1. the tissues  
2. numb  
3. removal/extraction  
4. to loosen all of the tissues  
5. tooth  
6. remove any debris  
7. any type of infected tissue.  
8. sterile water.  
9. sterile water  
10. log  
11. socket area

Task 7. Vocabulary

1. anestesiar  
2. detritus  
3. humedecer  
4. tronco  
5. alvéolo  
6. aguja  
7. hueso  
8. fresa dental  
9. hoja de bisturí
10. hemorragia  11. mango de bisturí  12. lima para hueso

Task 8. Reinforcement

1. anesthetic syringe
2. scalpel handle
3. dissecting forceps
4. Metzenbaum scissors
5. Allis tissue clamp
6. Periosteal elevator
7. Luer Rongeur forceps
8. Mayo-Hegar needle holder
9. Adson forceps
10. Scalpel blades
11. 3-0 silk with 3/8 circle needle
12. surgical drill
13. straight forceps
14. triangular elevator
15. Apexo elevator
16. straight elevator
17. mandibular forceps
18. bayonet forceps
20. maxillary forceps
21. Minnesota retractor
22. Farabeuf retractor
23. bone file surgical spoon curette.

LESSON 14

Task 6. Listening

1. complication 11. hold 21. swelling
2. wisdom teeth 12. together 22. throbbing
3. swelling 13. gauze 23. dry socket
4. dry socket 14. pressure 24. oral surgeon
5. spread 15. blood clot 25. irrigate
6. take 16. lost 26. sedative dressing
7. out 17. bony hole 27. get rid
8. blood clot 18. bony hole 28. heal up
9. hole 19. dull throb 29. throb
10. stitch 20. extraction 30. healing

Task 7. Vocabulary

1. palpitación sorda o leve 6. eritema/enrojecimiento
2. edema/hinchazón 7. coágulo
3. plaqueta 8. olor fétido
4. ingesta 9. recuperación
5. diente fragil/quebradizo 10. fosas nasales/orificios nasals
11. ápice radicular 13. deshacerse de
12. escapar/filtrar 14. tercer molar

Task 8. Reinforcement

1. T 3. T 5. T

LESSON 15

Task 6. Listening

1. missing tooth 11. implants, fixed/
2. shift bridges 20. crowns
3. crooked 12. removable partial 21. pontic
4. bite dentures 22. cemented
5. gum/ disease 13. attaches 23. replacement teeth
6. lower jaw 14. jawbone 24. framework
7. downward 15. post 25. clasps
8. empty 16. root 26. precision
9. older 17. shrinkage 27. / than
19. pontic

Task 7. Vocabulary

1. colmillo de morsa 5. silla/ base de la
2. brazo retentive dentadura 8. molde/ pieza
3. glaseado 6. placa de acrílico fundida
4. puente fijo 7. armazón 9. masticar

Task 8. Reinforcement

a) (1) e) (8) i) (4)
b) (3) f) (10) j) (6)
c) (5) g) (9)
d) (7) h) (2)
LESSON 16

Task 6. Listening

1. Minor/ connectors
2. link
3. major/ connector
4. minor/ connector
5. strut
6. base/ attachment
7. teeth
8. guide/ plate
9. rest,
10. four
11. clasp/ assemblies
12. denture/ bases
13. indirect/ retainers
14. auxillary/ rest
15. arms
16. bar/ type/ clasp
17. transfer/ functional/ stress
18. abutment/ teeth
19. retainers/ rest
20. partial/ denture

Task 7. Vocabulary

1. estructura de soporte
2. grupo de ganchos
3. el aditamento base
4. gancho tipo barra
5. dientes pilares
6. solidez estructural
7. unir
8. cumplir
9. grosor/ espesor

Task 8. Reinforcement

Suggested answers: plate, rest, framework, bar type clasp, retainers, indirect retainers, minor connector, etc.

LESSON 17

Task 6. Listening

1. Crossbite
2. not/ wide
3. teeth
4. jaw
5. an
6. overjet
7. too/ far
8. amount
9. front/ teeth
10. injury
11. speech
12. underbite
13. upper
14. inside
15. cut
16. wear
17. deep bite
18. overbite
19. upper/ front/ teeth
20. bite
21. roof
22. movement
23. jaw
24. aware
25. front/ teeth
26. open/ bite
27. touch
28. incising
29. back/ teeth
30. wear
31. tongue/ thrusting
32. swallowing
Task 7. Vocabulary

1. techo
2. desgaste
3. mandíbula
4. deglución
5. empuje lingual
6. ancho
7. apiñado/torcido
8. articulación
9. surco

Task 8. Reinforcement

1. Class III Malocclusion
2. Class II Malocclusion
3. Class I Malocclusion
4. Class II Malocclusion
5. Class III Malocclusion
6. Class I Malocclusion
7. Posterior Crossbite
8. Deep Overbite
9. Open Bite
10. Overjet
11. Anterior Crossbite
ORAL DISEASES

LESSON 1

VIDEO 1: Oral health and the social determinants of health

Available on: https://www.youtube.com/watch?v=pJEkR0x-eO8

Oral disease remains a global problem, particularly among disadvantaged preparation, emboss, industrials and developing countries. All our duties are also associated with systemic diseases including conditions such as diabetics and cardiovascular disease. There is a ring between oral health and general health through common risk factors including poor diet, tobacco use and alcohol consumption. Inequalities in oral health remain widespread both between and within countries and often mirror in majorities in general health. These inequalities buried in magnitude and extent and they are becoming marked in low middle income countries even in high-income countries which advanced our health care systems, inequalities in oral health persist. The social determinants of our health universe are affecting a range of our health outcomes and our health-related quality of life the mechanisms and pathways related to our health inequality complex and intolerant economic, psychosocial and behavioral factors or prey law equally social determinants of other systemic diseases and conditions have oral significance. The good news is our disease are preventable and social inequality in our health it's avoidable, intervention strategies which ignores the socio-economic context and related risk factors offer most potential for promotion of oral health throughout the whole population. Prevention of overall disease through public health interventions can be effective tackling inequality in our health it's an integral part of resolution wh a sixty point one seven entitled over health action plan for promotion and integrated disease prevention and also supportive of the United Nations sustainable development goals. (Fisher, 2016)
LESSON 2

VIDEO 2: Oral Health Basics - Dental Disease

Available on: https://www.youtube.com/watch?v=_E717XwFEn4

Gingivitis is a gum infection and is caused by bacteria which we know as plaque, it forms on the teeth and around the gums, it can also form on dentures. Plaque is a colorless sticky film that accumulates around the gums, the bacteria forms a toxin that causes gum disease and bad breath in your mouth. The signs of gingivitis and periodontal disease are obvious if you watch for them look for red, swollen or bleeding gums, bad breath, loose teeth and partials or dentures that do not fit properly, there could also be passed or exudate that is present in the mouth. Periodontal disease creates bone loss and recession around the teeth, there's usually no pain with periodontal disease until it gets to the severe stages, it is a silent disease, on the left is a healthy mouth the gums are pink and the mouth looks clean on the right is a mouthful of plaque calculus and red swollen gums it doesn't look clean or healthy. Dental caries or cavities if there is no sugar there would be no cavities or dental decay, the plaque and bacteria plus food creates an acidic environment your mouth goes from a basic or a neutral environment to an acidic environment each time you consume food that contains sugar or starch, bacteria in the mouth break down sugar and starch to produce acid which then softens tooth enamel this acid attack lasts for five to 15 minutes each time you eat, cavities develop when the enamel on your teeth is destroyed with repeated acid attacks when residents suck on candies all day long their mouth stays acidic for long periods of time and this allows for cavities to form on the teeth the consistency of the food is also important soft candy and starchy foods can stick to the surfaces of the teeth and stay there for long periods of time, sucking on candy allows the sugar to reach all areas of the mouth causing decay to occur between the teeth as well as the front and the back of the teeth, having candies or sweets with a meal is better than having them between meals, brushing helps to reduce tooth decay. (Healthy, 2012)
LESSON 3

VIDEO 3: Tooth anatomy

Available on: https://www.youtube.com/watch?v=rDxatqUbkVk

There's much more to a tooth than just the parts you can see in a smile, that's because our gums hide everything except the top of the tooth, an area called the crown, because this part of the tooth grinds up food it's covered with the hardest material in the body. The thin layer of tooth enamel is the reason our teeth are hard, white and shiny. Underneath the enamel and down into the roots the tooth is made up of pale yellow dentine although it's slightly softer than enamel it's still harder than bone. The middle of every tooth is hollow to make room for blood vessels needed to keep the tooth alive, this collection of soft tissue is called the pulp and also contains the nerves that warn us when something is wrong with the tooth. The nerves and blood vessels enter the tooth through a hole at the very end of the root and travel up through the pulp canal to fill up the space in the crown called the pulp chamber. Every tooth sits in a socket in the jawbone and is held in place by a tiny elastic strand called the periodontal ligament this stretchy connection means each tooth can move a little when you chew. Above the jaw bone that tooth is wrapped in a firm cuff of gum tissue or gingiva as it's sometimes called, the gum attaches to the neck of the tooth where the enamel finishes hiding the complex structure below and that's why there's so much more to a tooth than meets the eye. (The, 2010)

LESSON 4

VIDEO 4: Endodontic diagnosis

Available on: https://www.youtube.com/watch?v=7hBDgwAWq54

We're gonna speak just briefly about endodontic diagnosis, but my assertion is there's a significant a number of disease teeth that need endodontics and they're not being identified, our profession is excellent at finding tooth aches, but I'm talking about irreversibly involved pulps, the patient has asymptomatic, and general dentist is doing his job and he's going to be doing restorations, we need to do the pulp testing so we should identify is the pulp sound is it healthy can that tooth take another dental procedure, so our patients oftentimes give us their chief
complaint and then of course the three phases of the exam are the clinical examination where you can pull back lips, look in the vestibule, look for discolored teeth oftentimes secondary to trauma and then also we can lift up the fornix of the vestibule and look in there and see tattoos from an old silver point and that central incisor notice the perilous and there's a gutta-percha point tracing that sinus tract and it'll trace into a lesion of in denying origin, so our clinical exam can find swellings, we can look at pocketing, we can look at existing restorations, missing teeth and all this comprises part of our endodontic clinical examination. Now listen, I got to get you better on your vital pulp testing this is how you decide through hand signals the immediacy, the intensity and the duration of the response and if we begin to do this on opposing teeth, contralateral teeth and adjacent teeth we can get pretty good at locking that patient in, so they know what we're looking for and they don't fool us and we don't fool them the third phase in the in denying examination is the radiographic exam and the thing to emphasize here is the importance of getting two to three well angulated different horizontal views by doing this you'll see more of the in-and-out dimensions of the tooth buccal lingual or facial lingual. (Dentsply Sirona Endodontics US, 2013)

LESSON 5

VIDEO 5: Gingival Fiber Bundles

Available on: https://www.youtube.com/watch?v=yBADb64_Y40

Alveolar gingival fibers extend from the periosteum of the alveolar crest into the gingival connective tissue, these fiber bundles attach the gingiva to the bone, the periosteum is a dense membrane composed of fibrous connective tissue that closely wraps the outer surface of the alveolar bone. Circular fibers encircle the tooth in a ring like manner coronal to the alveolar crest and are not attached to the cementum of the tooth, these fiber bundles connect adjacent teeth to one another. Dental gingival fibers are embedded in the cementum near the cementoenamel junction and fan out into the gingival connective tissues, these fibers act to attach the gingiva to the teeth. Periosteal gingival fibers extend laterally from the periosteum of the alveolar bone, these fibers attach the gingiva to the bone. Interchangeable fibers extend in a mesial distal direction along the entire dental arch and around the last molars in the arch, these fiber bundles link adjacent teeth into a dental arch unit. Intercircular fibers encircle several teeth
these fiber groups link adjacent teeth into a dental arch unit. Interpapillary fibers are located in the papilla coronal to the transseptal fiber bundles, these fiber groups connect the oral and vestibular interdental papillae of posterior teeth. Transgingival fibers extend from the cementum near the CEJ and run horizontally between adjacent teeth these fiber bundles link adjacent teeth into a dental arch unit. Transseptal fibers pass from the cementum of one tooth over the crest of alveolar bone to the cementum of the adjacent tooth, these fiber bundles connect adjacent teeth to one another and secure alignment of teeth in the arch. (Edilia Marshall, 2016)

LESSON 6

VIDEO 6: Smoking and Periodontal Disease

Available on: https://www.youtube.com/watch?v=HEgkXClAkJg

By now almost everyone knows that smoking has been linked with lung disease cancer and heart disease, but most people aren't aware that smokers are three to six times more likely to have periodontal disease and two times more likely to lose teeth. Periodontal disease is an infection of the teeth gums and the bone that surrounds the teeth, the main cause of periodontal disease is plaque. Plaque is the sticky film of food, and bacteria that forms constantly on your teeth, these bacteria produced toxins and these toxins combined with your body's reaction to them destroy bone around your teeth. Smoking helps to cause periodontal disease in two ways, it reduces the production of saliva and damages the body's ability to fight off the infection, saliva helps to wash bacteria from the teeth, so less saliva means more plaque and tartar, saliva also contains disease fighting antibodies that help to fight destructive bacteria in the mouth, smoking damages your immune system by causing blood vessels to constrict throughout your entire body, which reduces the flow of infection-fighting white blood cells oxygen and nutrients to the gums, besides contributing to the onset of periodontal disease continuing to smoke after periodontal treatment makes it much much harder for your gums to heal, so if you haven't yet thought about quitting smoking, consider this by becoming a nonsmoker you can strengthen the fight against periodontal disease and keep your teeth. (fobnull, 2009)
LESSON 7

VIDEO 7: Why X-Ray

Available on: https://www.youtube.com/watch?v=KLwwzSnIaPc

Radiographs or x-rays are important tools the dentist uses to help care for your teeth, many oral diseases cannot be seen with a visual examination but an x-ray can reveal small cavities between the teeth are hidden by fillings, infections in the bone, periodontal disease, abscesses or cysts and even tumors. Early detection is key to save time, money and unnecessary discomfort, dental x-rays expose a small part of the body to a low dose of radiation, a leaded apron with a thyroid collar is recommended for children and women who are pregnant or of childbearing age to help minimize that exposure even more. Your oral health determines the number of x-rays that need to be taken, talk to your dentist if you have any questions. For the ADA dental minute I'm doctor Maria Lopez Howell. ((ADA), Why X-Ray?, 2013)

LESSON 8

VIDEO 8: Radiographic tips for diagnosis

Available on: https://www.youtube.com/watch?v=yBA7cig1U-s

I'm Jo camp, I've been practicing in the docks in North Carolina for over 40 years and teaching part-time during my entire career. Radiographs are an important part of the diagnostic process, but there are several factors about x-rays which you need to be aware. You need to understand that when you take an x-ray the beam is shot facial de lingual, but the film is read mesial to distal because all human permanent teeth except the maxillary central and lateral incisor are two to three times as wide facial lingually, most of the variations in anatomy occur in that plane and are not clearly visible on the film, if the need arises, a cone beam can show you anatomy you can't see on a conventional film. Let's take a moment to look at what it takes to make radiographs that will help you with your diagnosis, this radiograph illustrates an important point, you notice that the apices of this tooth are not on the film, if you are going into the pulp, you need to have an image of the entire tooth, so we take another image and here you see a massive lesion at the on the distal of this tooth and around the apex of the tooth and actually this case has a neoplasia which we picked up in this film, and this patient actually expired within six months after this
film was made, so it's very important to have the entire tooth on the film. Here is a bitewing x-ray which shows clearly the cavity in this lower molar which is going to expose the pulp however, this is not adequate to do endodontic treatment to go in it and expose the pulp on this too you must have a clear image of the roots to see the root development and what's around the end, so here is another film of that same tooth and you see that the apices of this tooth are wide open and not formed there for conventional endodontics on this tooth would be impossible to obtain fortunately, for this patient we were able to do vital therapy of pulp out of me and here you see the tooth two years after the treatment and the closure of the roots. (Dentsply Sirona Endodontics US, 2014)

LESSON 9

VIDEO 9: Pulpectomy English

Available on: https://www.youtube.com/watch?v=QCmdzhulPq8

One way a tooth can be saved is with a procedure called root canal treatment also known as endodontic treatment. Endodontics is a specialized area of Dentistry focused on treating disease or injury to the dental pulp, let's take a step by step look at a modern root canal procedure, here is a healthy tooth, inside the tooth under the white enamel is a hard tissue called dentin inside the dentin is a soft tissue called pulp, the pulp contains the teeths nerves and blood vessels, it extends from the crown of the tooth into the roots of your teeth, if the pulp becomes inflamed or infected an opening is made through the crown of the tooth and into the pulp chamber, fluid is put in the canals to kill any bacteria and help rinse out debris, then the pulp is removed using small instruments, the endodontist carefully cleans and shapes the canals, after the space is cleaned and shaped, the endodontist fills and seals the root canals, in most cases a temporary filling is placed to close the opening until you see your dentist, after your endodontist is finished, you must return to your dentist to have your tooth properly restored with a filling or crown that protects the tooth and is important to ensure the success of your root canal treatment. (Implantologia, 2015)
LESSON 10

VIDEO 10: Pulpotomy

Available on: https://www.youtube.com/watch?v=ROZvmfkJE4Y

In primary teeth when deep cavities are in the nerve or close to the nerve, it's sometimes necessary to perform a pulpotomy. A pulpotomy is the removal of the irritated part of the pulp while leaving the healthy root canals intact. A pulpotomy usually involves four common steps, first we make an opening into the tooth and remove the part of the nerve in the top of the tooth, next we place medication to promote healing and then we crown the tooth to seal it and protect it. We want the entire procedure to be comfortable for your child, so the first thing we do is make sure they're thoroughly numb we place a rubber dam around the tooth to isolate it from the rest of the mouth, it protects like a safety net nothing can fall to the back of the throat, to get it the irritated tissue we make an opening through the top of the tooth down into the pulp chamber, we carefully clean out the nerve tissue and then place a medicated packing sometimes the medicated packing is removed and sometimes it's left in place, the last step in the procedure is a crown it seals and protects the tooth. (smoothdentist, 2009)

LESSON 11

VIDEO 11: How to Check Patients for Oral Cancer

Available on: https://www.youtube.com/watch?v=7mv073MJzlG

This video offers step-by-step instructions for evaluating adult patients for potentially malignant disorders or PMDs and oral cancer during a routine dental exam in your clinic, first begin the exam by asking your patient if any new dental issues have emerged since their last visit or appointment, during the medical history recollection pay attention to risk factors such as being male, older, smoking and alcohol consumption with the patient's response in mind next perform a conventional visual in tactile intraoral and extra oral exam. Throughout the exam use inspection and palpation to look for any changes in colour, contour, consistency and function, begin the extra oral exam by examining the head and face with both the front and back, taking note of any asymmetries and the presence of pigmented lesions, for such lesions use the American Cancer Society's ABCDE rule to assess for melanoma risk look for asymmetry,
border irregularity, color changes, diameter greater than six millimeters and evolution of the lesion over time, next observe and palpate the neck on both sides if lymph nodes are identified pay attention to the size, consistency, whether they are painful and whether they freely move or are fixed in place. When evaluating the lips note any change in the Vermilion border mucosa and karma shares as well as the lips color contour consistency and function look for in durations and ulceration, ask your patient to open their mouth and begin the intra oral exam by inspecting the cheeks, retract the tissue with your thumbs and gently pinch the cheek between your fingers looking for a hidden masses, use a mirror to examine the alveolar processes in gingiva look for changes in colour, consistency, or a tooth with bone loss out of proportion with the rest of the , pay special attention to the presence of a lesion with a history of poor healing. Carefully inspect and palpate the hard and soft palate looking for abnormalities, while depressing the tongue with the mirror ask the patient to say: ah, to have better access to the uvula and tonsillar pillars using gauze move the tongue to the left and to the right to examine the entire dorsal tongue pay attention to the lateral and ventral tongue as well complete this assessment palpating the tongue and nearby salivary glands, this aspect of the exam is important as nearly half of all potentially malignant lesions are usually found in this area, ask the patient to touch their top front teeth with the tip of their tongue so that the floor of the mouth can be inspected and palpated. Use two hands, when palpating this area, after the exam clinicians should consider two potential clinical scenarios either the patient exhibits no lesions or has some type of mucosal abnormality. For patients without a lesion no further action is necessary. ((ADA), How to Check Patients for Oral Cancer, 2017)

LESSON 12

VIDEO 12: Cleft Lip and Palate treatment, DynaCleft

Available on: https://www.youtube.com/watch?v=s6V2R4Wz8YY

Souths medics Dyna cleft and nasal elevator are clinically proven pre surgical treatments for cleft lip, cleft palate and nasal deformity. Dyna cleft applied across the cleft lip provides a controlled force, repositioning the pro labium, pre maxilla and alveolar segments for the best possible surgical results, the nasal elevator gently lifts the nose lengthening and straightening the columella, leading to improved nasal symmetry and reducing the extent of or even the need
for primary nasal surgery, as an effective treatment that is also easy to adjust and improves patient comfort. Dyna cleft and nasal elevator are increasingly becoming the preferred pre-surgical treatment by both clinicians and families. (Inc., 2016)

LESSON 13

VIDEO 13: Oral Surgery Simple Extraction

Available on: https://www.youtube.com/watch?v=0qPmcICyHY0

The procedure that we're going to demonstrate for you is oral surgery, the first one we're going to do is a simple extraction, we're going to assume that our dental assistant has applied the topical anesthetic, the tooth we're removing is the 1.1 after the dental assistant has placed the topical anesthetic in the appropriate places to freeze the appropriate nerves, the dentist will take the syringe that has already been prepared with a short needle, while the dentist is giving anesthetic, the dental assistant will be ready to give a courtesy rinse after the dentist has finished, assuming that approximately 10 minutes has passed the dental assistant would then pass the dentist the mirror and explore to ensure that the tissues are sufficiently numb meaning that the tooth is ready for removal, the first thing that we're going to pass our dentist is the periosteal elevator. The periosteal elevator will help to loosen all of the tissues around the tooth, the dental assistant will suction the entire time during this procedure with the surgical suction, the dental assistant will then pass the tooth elevator, the dentist will then attempt to loosen the tooth or elevate the tooth, we would then pass the appropriate forceps notice that the dental assistant continues to suction in the entire time, we would pass the dentist the anterior forceps, the dentist would then take the forceps and remove the tooth. the dental assistant will have ready in her hand gauze and take the entire tooth and forceps in one movement, she would then pass the dentist the curette, the curette is to remove any debris within the socket, if there's an abscess or any type of infected tissue this would be removed at this time we would then pass through our dentist the mono jet syringe which has sterile water, the dentist would then irrigate the site was sterile water, the dental assistant would take a 2 by 2 gauze moisten it with the sterile water folding it into a little log, we would roll it up and make sure its moist with the sterile water pass it to our dentist. The dentist would then place it around the socket area and have the patient bite
together firmly we would return our patient to the upright position and we would give them the proper postoperative instructions. (Dentist, 2015)

LESSON 14

VIDEO 14: The most common oral surgery complication

Available on: https://www.youtube.com/watch?v=mK4lcw3Ydwk

Probably, the most common complication in removing wisdom teeth other than swelling, is a dry socket and anyone that's had a dry socket has certainly spread the word through all of their friends and what that dry socket is basically this, when we take a tooth out, we would like a nice blood clot to fill in that hole, that's why you put a stitch in there to hold the gum together we put gauze on top for direct pressure, but in some cases that blood clot can be lost or maybe it doesn't form and just leaves a bony hole, now that bony hole results in a dull throb, it develops about three to five days after the extraction so, once the swelling goes down if the throbbing gets worse you may have a dry socket in which case you go back to the oral surgeon and they can evaluate it, they can irrigate out the extraction site and put a nice sedative dressing in there to get rid of the pain, if we did nothing it would heal up fine it would just throb for about two to three weeks as it was healing. All right doctor thank you. Thanks for having me again. (Sequence, 2012)

LESSON 15

VIDEO 15: Three Tooth Replacement Options

Available on: https://www.youtube.com/watch?v=-jd1J_a21_4

You may already be aware of how important teeth are to your appearance, but you may not know how missing teeth can harm your dental health, even a tooth that does not show when you smile must be replaced because all of your teeth work together to help you to chew, speak and smile, if a tooth is missing these simple actions may become difficult to do. A missing tooth may cause the surrounding teeth to shift or become crooked and can change your bite, this can lead to cavities, gum disease and bite problems, a missing tooth in the lower jaw may even cause a tooth in the upper jaw to move downward into the empty space, you might start chewing only on one side of your mouth causing extra stress on your jaw joints or it can affect your bite and
place unusual stress on your teeth, it may also cause your face to look older or you may find it difficult to talk or chew food. However, thanks to tooth replacements you have a few options to replace missing teeth depending on your specific needs your dentist may recommend implants, fixed bridges or removable partial dentures, let's look at each option: an implant is a replacement tooth that attaches to your jawbone with a post that acts like a tooth root, implants are secure and stable and are most similar to your natural teeth and look and feel, they can be used to replace individual teeth or to support complete or partial dentures, unlike some of the other tooth replacement options the implant procedure does not involve your adjacent teeth, implants can also help prevent shrinkage of the jawbone that occurs from missing teeth although implants are a good replacement for natural teeth they're not for everyone since surgery is necessary patients need to be in good overall health have healthy gums and there must be enough bone to support an implant. Fixed bridges cover the space where one or more teeth have been lost, a fixed bridge is a permanent restoration that can only be removed by your dentist, fixed bridges are similar to natural teeth, they're stable and comfortable, bridges are made from metal, ceramics or a combination of the two, your dentist will work with you to determine what is best for your smile, a fixed bridge is attached to the natural teeth next to the space left by the missing tooth, an artificial tooth called a Pontic takes the place of the lost natural tooth, crowns on either side of the pontic are bonded or cemented to the adjacent teeth, to prepare the adjacent teeth for the bridge the dentist removes some of the tooth structure to make room for the crowns to fit over them, the custom-made bridge is fitted and adjusted and then the bridge is cemented into place; a third option for tooth replacement is a removable bridge also known as a removable partial denture, a removable partial denture is often less expensive than a fixed bridge or implant and can be removed from the mouth for cleaning, removable partial dentures typically have the replacement teeth attached to a gum colored plastic base connected by a metal framework, they attach to your natural teeth with either metal clasps or devices called precision attachments, having crowns on your natural teeth may improve the way a removable partial denture fits your mouth. (ADA, 2013)
LESSON 16

VIDEO 16: Major Connectors, Minor Connectors & Rests

Available on: https://www.youtube.com/watch?v=w6bGZzo2yeA

Minor connectors are those components that serve as the connecting link between the major connector and other components of the partial denture this minor connector is a strut that connects the major connector to a rest, the base attachment is a minor connector that connects the base and the teeth to the major connector, and lastly the guide plate shown here connects the major connector to this rest, these are all minor connectors. There are four types of minor connectors, there are: those that join clasp assemblies to the major connector, those that join denture bases to the major connector, those that join indirect retainers or auxiliary rest to the major connector and those that serve as approach arms for the bar type clasp. The function of the minor connector is to transfer functional stress to the abutment teeth, it also is to transfer the effect of the retainers rest and stabilizing components to the rest of the partial denture. (Windchy, 2014)

LESSON 17

VIDEO 17: Common Malocclusions in Orthodontics

Available on: https://www.youtube.com/watch?v=JFw3ImEYa2g

Let's take a look at some bytes that would benefit from orthodontic treatment. Crossbite: in a crossbite the upper teeth are not wide enough to fit on the outside of the lower teeth, this makes it difficult to bring the teeth together, the lower jaw or teeth may have to shift to one side to make the teeth fit together; excessive overjet: in an excessive overjet the upper teeth are too far in front of the lower teeth, if the amount of the overjet is severe the front teeth may be subject to injury and speech may be affected; underbite: an underbite is when the upper teeth are inside or not in front of the lower teeth, which makes it difficult to cut food and causes premature wear of the back teeth; deep bite sometimes referred to as an overbite, a deep bite is when the upper front teeth cover the lower teeth and the lower teeth bite into the roof of the mouth, this type of bite causes difficulty in the movement of the lower jaw and make us premature aware of the
front teeth; open bite: an open bite is when the front teeth do not touch, this makes cutting or incising food difficult or impossible, the back teeth are always touching and subject to premature wear, this type of bite also causes speech problems and tongue thrusting problems during swallowing. (Movahhedian & Vaziri, 2015)
BIBLIOGRAPHY


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1 REASON FOR VISIT

WRITE DOWN THE CAUSE OF THE PROBLEM IN THE INFORMANT VERSION

2 HISTORY OF PRESENTING COMP STATUS

REGISTER SYMPTOMS: CHRONOLOGY, LOCATION, CHARACTERISTICS, INTENSITY, APPARENT CAUSE, ASSOCIATED SYMPTOMS, EVOLUTION, CURRENT STATUS

3 PERSONAL AND FAMILY RECORD

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4 VITAL SIGNS

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5 STOMATOGNATHIC EXAM

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9 SIMBOLOGY

- *red SEALANT NECESSARY
- *blue SEALANT PERFORMED
- red EXTRACTION SUGGESTED
- x blue LOSS CAUSED BY TOOTH DECAY
- ** red TOOTH DECAY
- COMPLETE DENTURE
- ENDODONCE = CROWN
- FIXED DENTURE = O blue RESTORED
- REMOVABLE PARTIAL DENTURE = O red TOOTH DECAY

SNS-NRSE / HCU-Renom / 033 / 2008

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10 DIAGNOSTIC, THERAPEUTIC AND EDUCATIONAL PLANS

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<tr>
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11 DIAGNOSIS

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12. TREATMENT

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<th>SESSION AND DATE</th>
<th>DIAGNOSIS Y COMPLICATIONS</th>
<th>PROCEDURES</th>
<th>PRESCRIPTIONS</th>
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ALL INFORMATION DELIVERED BY PROFESSIONALS TO THE PATIENT WILL BE MADE IN THE FIELD OF CONFIDENTIALITY

1 INFORMATION DELIVERED BY THE ATTENDING PROFESSIONAL ABOUT THE TREATMENT

<table>
<thead>
<tr>
<th>PURPOSES</th>
<th>THERAPY AND PROPOSED PROCEDURES</th>
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<tr>
<td>EXPECTED RESULT</td>
<td>RISKS OF CLINICAL COMPlications</td>
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<table>
<thead>
<tr>
<th>ATTENDING PROFESSIONAL'S NAME</th>
<th>ESPECIALITY</th>
<th>PHONE NUMBER</th>
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2 INFORMATION DELIVERED BY THE SURGEON ABOUT THE SURGICAL INTERVENTION

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<th>PURPOSES</th>
<th>PROPOSED SURGICAL INTERVENTIONS</th>
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<td>EXPECTED RESULT</td>
<td>RISKS OF CLINICAL COMPLICATIONS</td>
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<th>SURGEON'S NAME</th>
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2 INFORMATION DELIVERED BY THE SURGEON ABOUT THE SURGICAL INTERVENTION

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<tr>
<td>EXPECTED RESULT</td>
<td>RISKS OF ANESTHETIC COMPLICATIONS</td>
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</thead>
</table>

4 INFORMED CONSENT FROM THE PATIENT

A. The treating professional has informed me satisfactorily about the reasons and purposes of the planned treatment for my disease

B. The treating professional has adequately explained to me the essential activities that will be carried out during the treatment for my disease

C. I consent to the surgical interventions, diagnostic procedures and treatments necessary for my disease

D. I consent to the administration of the proposed anesthesia

E. I have understood that there is a guarantee of the quality of the means used for the treatment, but not about the results

F. I have fully understood the benefits and risks of complications arising from treatment

G. The treating professional has informed me that there is guarantee of respect for my privacy, my religious beliefs and confidentiality of information (even in case of HIV / AIDS)

H. I have understood that I have the right to cancel this informed consent at the time I consider it necessary

I. I declare that I have given the treating professional complete and reliable information on the personal and family history of my health condition, I am aware that my omissions or deliberate distortions of the facts may affect the results of the treatment

5 INFORMED CONSENT FROM LEGAL REPRESENTATIVE

As legal representative of the patient, who has been considered for now unable to decide independently his consent, I authorize the realization of the treatment according to the information given by the health professionals in this establishment.

<table>
<thead>
<tr>
<th>LEGAL REPRESENTATIVE'S NAME</th>
<th>RELATIONSHIP</th>
<th>PHONE NUMBER</th>
<th>IDENTITY CARD</th>
<th>SIGNATURE</th>
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