

全国高等医药院校试用教材
(供医学、中医、儿科、口腔、卫生专业用)

英 语

第 四 册

口 腔 分 册

上海第二医学院 主编

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编写单位

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西安医学院 南京医学院

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1. The Deciduous¹ and Permanent² Teeth

The Deciduous Teeth

At birth³, the individual has no functioning teeth in the mouth. Radiograms⁴ of the infant⁵'s jaws⁶, however, would^① show many teeth in various stages of the process of formation⁷. Since the diet in early infancy⁸ is entirely fluid, the deciduous dentition⁹ is not required until the child needs solid food^②.

The denomination¹⁰ and number of teeth for all Mammalia¹¹ are expressed¹² by formulae¹³. The denomination of each tooth is represented¹⁴ by an initial¹⁵ letter¹⁶ (I, C, M, etc.); each letter is then followed by a horizontal¹⁷ line, and the number of each type of tooth goes above the line for the maxilla and below the line for the mandible¹⁸. The formula includes one side only:

The deciduous dental formula of man is;

$$I \frac{2}{2} C \frac{1}{1} M \frac{2}{2} = 10$$

This formula should^③ be read thus¹⁹: Incisors²⁰, two upper and two lower; canines²¹, one upper and one lower; molars²², two upper and two lower—or ten altogether²³ on one side, right or left.

The incisors are designed²⁴ for cutting, the canines or cuspids²⁵ have a pointed²⁶ cusp²⁷ for tearing²⁸ and incision²⁹, whereas³⁰ the molars have broad³¹ occlusal³² surfaces³³ with multiple³⁴ cusps which are more efficient³⁵ in reducing³⁶ food material as an aid in the digestive process.

The Permanent Teeth

By the time the child is about six years of age, the first permanent teeth (the first molars) appear in the upper and lower jaws which have now become large enough to accommodate³⁷ them^④. One by one^⑤ the deciduous teeth are exfoliated³⁸, from the seventh year on, by a natural process brought about by resorption of their roots. Succedaneous³⁹ permanent teeth take their places^⑥ at the proper time. When the jaws have grown sufficiently, two additional⁴⁰ molars are added posteriorly to the first molars.

The permanent dental formula of man is;

$$I \frac{2}{2} C \frac{1}{1} P \frac{2}{2} M \frac{3}{3} = 16$$

Premolars or bicuspid⁴¹s have now been added to the formula, two upper and two lower, and a third molar has been added, one upper and one lower.

From the above^⑦ we make the observation that^⑧ the child has twenty deciduous

例如: We should do our best to serve the people. 我们应当尽力为人民服务。

4. large enough to accommodate them 大得足够容纳他们 enough 常与不定式连用, 说明形容词, 表示程度的意思。

例如: He is old enough to take care of himself. 他已长大得可以自己照顾自己了。

5. one by one 一个一个地

6. take (one's) place 代替 (…) 注意和 take place (发生, 举行) 的区别。

The operation took place yesterday. 手术昨天进行的。

7. the above 上述 这里 above 用作名词。

8. that 引导的是同位语从句, 同位于 observation。

9. the adult 后省略了动词 has。

1. 乳牙和恒牙

乳牙: 一个人在出生时, 嘴内没有起着作用的牙齿。但婴儿颌骨X线照片可显示各发育不同时期的许多牙齿。由于婴儿早期食物全是流质, 直到需要吃固体食物之前, 是不需要乳牙的。

所有哺乳动物牙齿的名称和数目, 通过公式来表示。每颗牙的名称, 用第一个字母来代表 (I、C、M等), 每个字母的旁边是一条横线, 线以上是每种上颌牙的数目, 线以下是每种下颌牙的数目。这个公式仅包括一侧牙列。

人类乳牙的公式是:

$$I \frac{2}{2} C \frac{1}{1} M \frac{2}{2} = 10$$

这个公式应读为: 切牙, 上下颌各 2; 尖牙, 上下颌各 1; 磨牙, 上下颌各 2; 一侧 (右侧或左侧) 牙齿数目共计 10 颗。

切牙用来切割, 尖牙有一个牙尖用来撕裂和切割, 而磨牙有一个宽阔的殆面和几个牙尖, 这些都能更有效地捣碎食物, 以帮助食物的消化。

恒牙: 儿童到了六岁左右, 其上、下颌就萌出最初几颗恒牙 (第一磨牙), 此时颌骨已长大, 足以容纳它们。从七岁开始, 经过牙根被吸收的自然过程, 乳牙逐一脱落。替代它们的恒牙在适当的时候萌出。当颌骨已充分发育, 第二、第三磨牙即在第一磨牙的后边相继萌出。

人类恒牙公式是:

$$I \frac{2}{2} C \frac{1}{1} P \frac{2}{2} M \frac{3}{3} = 16$$

前磨牙或叫双尖牙也加到这个公式里, 2 上 2 下; 第三磨牙也加进去了, 1 上 1 下。从上所述, 我们可以看到儿童有 20 颗乳牙, 成人有 32 颗恒牙。

2. The Crown¹ and Root

Each tooth has a crown and root portion. The crown is covered with enamel², and

- 界, 区域, 范围
17. collectively [kə'lektivli] *ad.* 共同地, 集体地
18. furnish ['fə:nɪʃ] *v.* 供应, 提供
19. ridge [ridʒ] *n.* 嵴
20. maxillary ['mæksiləri] *a.* 上颌的
21. mandibular [mæn'dɪbjulə] *a.* 下颌(骨)的
22. apex ['eɪpeks] (复 apices ['eɪpɪsɪz]) *n.* 尖, 尖端, 顶点
23. terminal ['tɜ:miɪnəl] *a.* 末端的
24. anterior [æn'tɪəriə] *a.* 前面的
25. bifurcation [baɪfə:'keɪʃən] *n.* 双叉, 分为二枝
26. trifurcation [traɪfə:'keɪʃən] *n.* 三叉, 分成三枝
27. extension [ɪks'tenʃən] *n.* 延长部分, 扩大部分
28. firmly ['fɜ:mli] *ad.* 稳固地, 牢固的
29. fix [fiks] *v.* 使固定
30. alveolar [æl'viələ] *a.* 牙槽的
31. socket ['sɒkɪt] *n.* 臼; 槽; 窝
32. alveolus [æl'viələs] (复 alveoli [æl'viəlaɪ]) *n.* 牙槽
33. erupt [ɪ'rʌpt] *v.* (牙齿) 萌出
34. gingiva [dʒɪn'dʒaɪvə] *n.* 龈
35. gingival [dʒɪn'dʒaɪvəl] *a.* 龈的
36. gum [gʌm] *n.* (牙) 龈

Notes

1. the last 后省略了 is known。
2. a single cusp 是前面动词 present [pri'zent] 的宾语。
3. two or more cusps 也是 present 的宾语。
4. as found on premolars and molars 是定语从句, found 前省略了 is, as 代替整个主句。
5. multiple 作表语, 与前面的表语 single 是并列成分。
6. rests 在这里用作动词 (现在时、单数、第三人称), 不是名词, 意思是“搁(在)”或“停留(在)”。

2. 牙冠和牙根

每一颗牙都有一个牙冠和牙根。牙冠外覆盖着釉质, 牙根外覆盖着牙骨质。冠和根在釉质和牙骨质交界处连接。这个交界线又叫做牙颈线, 在离体牙上可以清楚地被看到。牙齿大部分由牙本质组成, 在牙齿的横切面上这一点是明显的。横切面还显示出在正常时有髓组织的髓室及髓管。髓室局限于牙冠内, 而髓管则在牙根内。二者相连, 它们被统称为髓腔。

已经讲到的牙齿四层组织是釉质、牙骨质、牙本质和牙髓。前面三种称为硬组织, 最后一种是软组织。髓组织供应牙齿血液和神经。

牙齿的牙冠可以有一个切嵴或叫切缘 (例如上、下颌中切牙和侧切牙), 可以是单尖的, 如尖牙, 也可以是双尖或多尖的, 如前磨牙和磨牙。切嵴和牙尖在牙冠上形成一个切面。

牙齿的牙根可以是单根, 有一个根尖, 正象在正常的前牙和一些前磨牙所看到的那样; 也可以是多根, 在根部经分叉成二根型或三根型, 正如在所有的磨牙 (正常的) 和

of²⁰ their irregular form, one tooth in the arch will touch its neighbor in more than a single point, hence²¹ contact “area”.

Word List

- | | |
|--|--|
| 1. face [feɪs] <i>v.</i> 面对; 向 | 12. distal ['distl] <i>a.</i> 远中的 |
| 2. lip [lɪp] <i>n.</i> 唇 | 13. reference ['refrəns] <i>n.</i> 参考 |
| 3. labial ['leɪbiəl] <i>a.</i> 唇的 | 14. median ['mi:djən] <i>a.</i> 在中间的, 通过中间的 |
| 4. buccal ['bʌkəl] <i>a.</i> 颊的 | 15. vertically ['və:tɪkəli] <i>ad.</i> 垂直地 |
| 5. facial ['feɪʃəl] <i>a.</i> 脸的 | 16. distant ['dɪstənt] <i>a.</i> 远的 |
| 6. lingual ['lɪŋgwəl] <i>a.</i> 舌的 | 17. neighbor ['neɪbə] <i>n.</i> 邻居, 邻接物 |
| 7. opposite ['ɒpəzɪt] <i>a.</i> 相对的, 对面的 | 18. token ['təʊkn] <i>n.</i> 标志; 记号; 表示 |
| 8. closure ['kləʊʒə] <i>n.</i> 闭合, 关闭 | 19. erroneously [ɪ'rouniəsli] <i>ad.</i> 错误地, 不正确地 |
| 9. adjoining [ə'dʒɔɪnɪŋ] <i>a.</i> 邻接的 | 20. alignment [ə'laɪnmənt] <i>n.</i> 组合 |
| 10. proximal ['prɒksɪməl] <i>a.</i> 近侧的, 邻近的 | 21. hence [hens] <i>ad.</i> 由此, 因此 |
| 11. mesial ['mi:ʒəl] <i>a.</i> 近中的 | |

Notes

- four surfaces and a ridge 作前面动词 present 的宾语。
- five surfaces 前省略了动词 present。注意有时在省略了某成分的地方用一逗号。例如本句中 and the crowns of the premolars and molars, five surfaces。写完全应是 and the crowns of the premolars and molars present five surfaces。
- buccal surfaces 前省略了 are called。
- come in (into) contact with... 与...接触
- have reference to... 和...有关系
- relative to... 和...有关
- by the same token 同样, 同理
- except for... 除...外, 若无...
- in a general way 概括地
- one 在这里“泛指”人。意思是“一个人”、“人人”、“人们”等。
One must always be modest.
一个人应当永远是谦虚的。
- keep...in mind (被动语态 be kept in mind) 记住, 考虑到
- because of... 由于..., 因为...

3. 牙齿的面和切嵴

检查切牙和尖牙的牙冠有四个面和一个切嵴, 前磨牙和磨牙的牙冠有五个面。这些面是按照它们的位置和功用来命名的。中切牙和侧切牙和尖牙叫前牙, 前磨牙和磨牙叫后牙。切牙和尖牙向着唇部的面叫唇面, 前磨牙和磨牙向着颊部的面叫颊面。唇面和颊

sides of a triangle. They are named after^③ the cusps to which they belong: triangular ridge of the buccal cusp of the maxillary first premolar, etc.

When a buccal and a lingual triangular ridge join, they form a transverse ridge, the union³⁵ of two triangular ridges crossing transversely the surface of a posterior tooth.

The oblique ridge is a variable ridge crossing obliquely the occlusal surfaces of upper molars; it results from the junction of two triangular ridges.

A fossa is an irregular, rounded depression³⁶ or concavity³⁷ found upon the surface of a tooth. Lingual fossae are found upon the lingual surface of incisors. Central fossae are found upon the occlusal surface of molars, and are formed by the converging³⁸ of ridges terminating at a central point in the bottom of the depression where there is a junction of grooves. Triangular fossae are found on molars and premolars on the occlusal surfaces mesial or distal to marginal ridges, as the case may be^④; they are sometimes found on the lingual surfaces of maxillary incisors at the edge of the lingual fossae where the marginal ridges and the cingulum meet.

A sulcus is a notably³⁹ long depression or valley⁴⁰ in the surface of a tooth between ridges and cusps, the inclines of which meet at an angle. A sulcus has a developmental groove at the junction of its inclines. (The term "sulcus" must not be confused⁴¹ with^⑤ the term groove.)

A developmental groove is a shallow⁴² groove or line denoting⁴³ evidence of coalescence⁴⁴ between the primary⁴⁵ parts of the crown or root. A supplemental groove is also a shallow linear depression on the surface of a tooth, but it is supplemental to a developmental groove and does not mark the junction of primary parts. Buccal and lingual grooves are developmental grooves found on the buccal and lingual surfaces of posterior teeth.

Fissures are linear faults⁴⁶ in the enamel covering of crowns. They are usually found in developmental grooves where calcification⁴⁷ has been incomplete.⁴⁸ Pit faults are small and circumscribed⁴⁹, usually located at the points of junction of developmental grooves or at terminals of those grooves. Pit faults must not be confused with the term "Central pit", which is a term used to describe a landmark in the central fossae of molars where developmental grooves join; these central pits are pit faults only when calcification has been incomplete. In other words^⑥, a fissure is always a fault, but a pit is not necessarily so^⑦. A lobe is one of the primary centers of calcification formed in the development of the crown. Cusps and mamelons⁵⁰ are representative of lobes. A mamelon is one of the three rounded protuberances⁵¹ found on the incisal ridges of newly erupted incisor teeth.

The roots of the teeth may be single or multiple. Anterior teeth, maxillary and mandibular, have only one root each^⑧. Mandibular premolars and the second maxillary premolar are single-rooted, but the first maxillary premolar has two roots in most cases, one buccal and one lingual. Maxillary molars have three roots, one mesiobuccal, one

disto-buccal and one lingual. Mandibular molars have two roots, one mesial and one distal. It must always be kept in mind^⑨ that^⑩ description in anatomy can never follow a hard and fast rule. Variations must always be looked for^⑪. This is especially true regarding tooth roots.

Word List

- | | |
|---|--|
| 1. landmark ['lændmɑ:k] <i>n.</i> 标志 | 状 |
| 2. intelligently [in'telidʒəntli] <i>ad.</i> 有理解力地 | 24. mesio-distally [mi:zjə'distəli] <i>ad.</i> 近中远侧地 |
| 3. recognize ['rekəɡnaiz] <i>v.</i> 认识 | 25. girdle ['gə:dl] <i>n.</i> 带; 托带 |
| 4. familiar [fə'miljə] <i>a.</i> 熟悉的, 通晓的 | 26. encircle [in'sə:kl] <i>v.</i> 环绕; 围绕; 包围 |
| 5. tubercle ['tju:bə(:)kl] <i>n.</i> 结节 | 27. linear ['liniə] <i>a.</i> 长条形的, 线形的 |
| 6. cingulum ['siŋɡjələm] (复 cingula ['siŋɡjələ]) <i>n.</i> 带; 扣带; 舌面隆突〔口〕 | 28. location [lou'keiʃən] <i>n.</i> 位置 |
| 7. marginal ['mɑ:dʒinl] <i>a.</i> 缘的 | 29. mesially ['mi:zjəli] <i>ad.</i> 近中地 |
| 8. triangular [traɪ'æŋɡjələ] <i>a.</i> 三角形的 | 30. distally ['distəli] <i>ad.</i> 远中地; 远侧地 |
| 9. transverse ['trænzvə:s] <i>a.</i> 横的 | 31. descend [di'send] <i>v.</i> 下来, 下降 |
| 10. oblique [ə'bli:k] <i>a.</i> 斜的 | 32. tip [tip] <i>n.</i> 尖; 末端 |
| 11. fossa ['fɒsə] (复 fossae ['fɒsi:]) <i>n.</i> 窝; 凹 | 33. slope [sləup] <i>n.</i> 斜面; 斜坡 |
| 12. sulcus ['sʌlkəs] (复 sulci ['sʌlsi]) <i>n.</i> 沟 | 34. incline [in'kleɪn] <i>v.</i> 倾斜 |
| 13. developmental [diveləp'mentl] <i>a.</i> 发育的 | 35. union ['ju:njən] <i>n.</i> 连接 |
| 14. groove [ɡru:v] <i>n.</i> 沟 | 36. depression [di'preʃən] <i>n.</i> 凹陷 |
| 15. supplemental [sʌpli'mentl] <i>a.</i> 附加的; 补充的 ~groove 副沟〔口〕 | 37. concavity [kən'kæviti] <i>n.</i> 凹面; 成凹形 |
| 16. pit [pit] <i>n.</i> 窝; 凹; 点隙〔口〕 | 38. converge [kən'və:dʒ] <i>v.</i> 聚集, 集中 |
| 17. fissure ['fiʃə] <i>n.</i> 裂; 裂隙; 裂纹 | 39. notably ['nəutəbli] <i>ad.</i> 显著地 |
| 18. elevation [eli'veiʃən] <i>n.</i> 隆凸 | 40. valley ['væli] <i>n.</i> 凹陷处; 凹地; 谷 |
| 19. mound [maʊnd] <i>n.</i> 耸起; 小丘 | 41. confuse [kən'fju:z] <i>v.</i> 使混乱, 混淆 |
| 20. divisional [di'viʒnl] <i>a.</i> 分部的 | 42. shallow ['ʃæləu] <i>a.</i> 浅的 |
| 21. overcalcification [ouvəkælsifi'keiʃən] <i>n.</i> 过度钙化 | 43. denote [di'nəʊt] <i>v.</i> 表示; 意味着 |
| 22. deviation [di:vi'eɪʃən] <i>n.</i> 脱离; 越轨 | 44. coalescence [kouə'lesns] <i>n.</i> 接合, 结合 |
| 23. convexity [kən'veksiti] <i>n.</i> 中凸, 凸 | 45. primary ['praɪməri] <i>a.</i> 最初的 |
| | 46. fault [fɔ:lt] <i>n.</i> 毛病 |
| | 47. calcification [kælsifi'keiʃən] <i>n.</i> 钙化 |

Word List

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|---|--|
| <p>1. histology [his'tɒlədʒi] <i>n.</i> 组织学, 组织结构</p> <p>2. description [dis'kripʃən] <i>n.</i> 叙述</p> <p>3. remark [ri'mɑ:k] <i>n.</i> 陈述</p> <p>4. cuff-shaped ['kʌfʃeɪpt] <i>a.</i> 呈袖套状的</p> <p>5. sulcus ['sʌlkəs] (复 sulci ['sʌlsai]) <i>n.</i> 沟</p> <p>6. debris ['debri:] <i>n.</i> 碎屑</p> <p>7. sparse [spɑ:s] <i>a.</i> 稀少的, 稀疏的</p> <p>8. macrophage ['mækrəfeɪdʒ] <i>n.</i> 巨噬细胞</p> <p>9. subepithelial [sʌb epi'θi:liəl] <i>a.</i> 上皮下的</p> <p>10. keratinise ['kerətinaɪz] <i>v.</i> 角化</p> <p>11. keratinisation [kerətini'zeɪʃən] <i>n.</i> 角化</p> <p>12. parakeratosis [pærəkerə'tousis] <i>n.</i> 角化不全</p> <p>13. peg [peg] <i>n.</i> 钉</p> <p>14. dermal ['dɜ:ml] <i>a.</i> 皮肤的</p> <p>15. papilla [pə'pɪlə] (复 papillae [pə'pɪli:]) <i>n.</i> 乳头</p> <p>16. stratum ['streɪtəm] (复 strata ['streɪtə]) <i>n.</i> 层</p> | <p>17. corneum ['kɔ:niəm] <i>n.</i> 角质层</p> <p>18. absent ['æbsənt] <i>a.</i> 不在, 缺乏的</p> <p>19. variation [vəəri'eɪʃən] <i>n.</i> 变化, 变动</p> <p>20. palate ['pælit] <i>n.</i> 腭</p> <p>21. palatine ['pæləteɪn] <i>a.</i> 腭的</p> <p>22. blind endings 盲端</p> <p>23. columnar [kə'lʌmnə] <i>a.</i> 圆柱的, 圆柱形的</p> <p>24. goblet ['gɒblɪt] <i>n.</i> (无柄) 酒杯</p> <p>25. islet ['aɪlɪt] <i>n.</i> 小岛</p> <p>26. derive [di'raɪv] <i>v.</i> 起源, 由来, 取得</p> <p>27. paraseptal [pærə'septl] <i>a.</i> 中隔旁的</p> <p>28. cornification [kɔ:nifi'keɪʃən] <i>n.</i> 角(质)化</p> <p>29. fusion ['fju:ʒən] <i>n.</i> 熔化, 熔合, 融合</p> <p>30. squamous ['skweɪməs] <i>a.</i> 鳞状的</p> <p>31. sebaceous [si'beɪʃəs] <i>a.</i> 皮脂的, 分泌脂质的</p> <p>32. follicle ['fɒlɪkl] <i>n.</i> 滤泡, 小囊, 卵泡</p> <p>33. blunt [blʌnt] <i>a.</i> 钝的</p> <p>34. naked eyes 肉眼</p> |
|---|--|

Notes

1. though 引导的是让步状语从句。
2. that 引导的是结果状语从句。
3. in the absence of... 在没有...的情况下

Anaerobes live and grow only *in the absence of* oxygen.
 厌氧菌只有在没有氧的情况下生活和生长。
4. at least 至少

5. 口腔和面部的组织学

对这些组织的正常结构不必作专门的描述, 然而重点叙述口腔粘膜是有益的。

围绕牙颈部的粘膜是牙龈。牙龈呈袖套状紧紧地附着于牙齿, 但是与牙齿之间有一

tine contains no cell bodies but only cell processes, those of the odontoblasts, in the dentinal²² tubule. The dentinal tubules are 2 to 3μ ²³ in diameter²⁴ and each runs through the whole thickness of the dentine from the cell body of the odontoblast to the outer surface of the dentine. There are cross-communications²⁵ between the tubules, containing anastomosing²⁶ branches of the odontoblast processes. Calcification of the dentine occurs in spherical²⁷ or globular²⁸ masses or calcospherites²⁹, which coalesce³⁰ to give a uniformly³¹ mineralized³² tissue. Where calcification is incomplete the separate globules can be seen, with the uncalcified³³ or hypocalcified³⁴ ground substance in between them. Such areas are referred to as interglobular dentine.

Enamel. Mature enamel can be studied only in ground sections unless special methods are employed, since it is completely removed by routine histological decalcification³⁵. The inorganic material is an apatite and small organic fraction is mainly of keratinous³⁶ nature^②. Enamel consists of rods³⁷ or prisms³⁸ in an interprismatic³⁹ substance that is slightly less mineralized than^③ the rods themselves. Each rod runs from the enamel-dentine junction through the whole thickness of the enamel to its surface, following a slightly wavy⁴⁰ course. The rods have a "fish-scale"⁴¹ appearance in cross-section, with an average diameter of 4μ .

Cementum. Cementum is a modified type of bone that covers the dentine of the tooth root in a thin layer. Two varieties of cementum occur normally, acellular⁴² and cellular. Acellular or primary cementum, the type first formed, covers the root from the enamel-cementum junction to close to the apex. As the name implies⁴³, this thin layer of cementum is homogeneous⁴⁴ and contains no cells^④. Cellular or secondary cementum covers the apical⁴⁵ portion of the root. Lacunae⁴⁶ containing the cementocytes⁴⁷ are present, in a similar manner to the lacunae for osteocyte⁴⁸ in bone. The cementocytes are very similar morphologically⁴⁹ to osteocytes, though they are usually somewhat larger. The processes of the cementocytes do not radiate⁵⁰ in all directions like those^⑤ of osteocytes, but tend to be directed away from the dentine towards the periodontal membrane. Well-marked incremental⁵¹ lines running parallel with the root surface are seen in the cementum and it is quite normal to find successive⁵² increments of both acellular and cellular cementum occurring in any order or distribution. Cementum is continuously deposited throughout life. The principal function of cementum is to give attachment to fibres of the periodontal membrane.

Periodontal Membrane. The connective tissue fibres generally termed the periodontal membrane constitute a suspensory⁵³ ligament⁵⁴ that attaches the tooth to bony alveolus. Fibres are attached to the cementum, and for the most part^⑥ run in bundles to the alveolar bone. Those from the cementum nearest to the crown, however, run across the alveolar crest⁵⁵ to the cementum of the adjacent tooth, and some also run into the gingiva.

Word List

1. socket ['sɒkɪt] *n.* 窝, 孔, 穴
2. periodontal [ˌperio'dɒntl] *a.* 牙周的
3. membrane ['membrein] *n.* 膜
4. loose [lu:s] *a.* 松的, 宽的
5. surface ['sə:fɪs] *n.* 表面, 面
6. odontoblast [ɒ'dɒntəblæst] *n.* 成牙质细胞
7. nucleus ['nju:kliəs] (复 nuclei ['nju:kliəi]) *n.* 核, 核心
8. tubule ['tju:bju:l] *n.* 小管, 细管
9. layer ['leɪə] *n.* 层
10. narrow ['nærou] *a.* 狭的
11. cell-free ['selfri:] *a.* 无细胞的
12. organic [ɔ:'gænik] *a.* 有机体的, 器官的
13. inorganic [ɪnɔ:'gænik] *a.* 无机的
14. fraction ['frækʃən] *n.* 碎片, 小部分
15. collagen ['kɒlədʒən] *n.* 骨胶原, 成胶质
16. fibril ['faɪbrɪl] *a.* 原纤维, 纤维
17. embed [ɪm'bed] *v.* 埋
18. mucopolysaccharide [mju:kɒpəli-'sækəraɪd] *n.* 粘多糖 (类)
19. apatite ['æpətaɪt] *n.* 磷灰石
20. crystal ['krɪstl] *n.* 水晶, 结晶(体), 水晶玻璃
21. unlike ['ʌn'laɪk] *a., prep.* 不同的; 不象, 和...不一样
22. dentinal ['dentɪnəl] *a.* 牙本质的
23. μ = micron ['maɪkrən] 微, 微米
24. diameter [daɪ'æmɪtə] *n.* 直径
25. cross-communication [krɒskəmjuː-'ni'keɪʃən] *n.* 相互交通
26. anastomose [ə'næstəməʊs] *v.* (使)吻合, (使)网结
27. spherical ['sferɪkəl] *a.* 球形的, 球的
28. globular ['glɒbjulə] *a.* 球状的, 有小球的
29. calcospherite [kælkə'sfi:raɪt] *n.* 钙球
30. coalesce [kouə'les] *v.* 接合, 愈合, 结合
31. uniformly ['ju:nɪfɔ:mli] *ad.* 一致地
32. mineralize ['mɪnərəlaɪz] *v.* 使矿物化, 使含无机化合物
33. uncalcify [ʌn'kælsɪfaɪ] *v.* 未钙化
34. hypocalcify [haɪpə'kælsɪfaɪ] *v.* 低钙化
35. decalcification [di:kælsɪfi'keɪʃən] *n.* 脱钙
36. keratinous [kə'reɪtɪnəs] *a.* 角化的
37. rod [rɒd] *n.* 杆
38. prism ['prɪzəm] *n.* 棱柱(体), 釉柱
39. interprismatic [ɪntə'prɪz'mætɪk] *a.* 棱柱间的
40. wavy ['weɪvi] *a.* 波状的, 有波纹的
41. fish-scale [fɪʃskeɪl] *a.* 鱼鳞状的
42. acellular [eɪ'seljələ] *a.* 非细胞组成的
43. imply [ɪm'plai] *v.* 含有...的意思
44. homogeneous [hɒmə'dʒi:njəs] *a.* 均匀的, 相似的
45. apical ['æpɪkəl] *a.* 顶端的, 在顶端的
46. lacuna [lə'kju:nə] (复 lacunae [lə'kju:ni:]) *n.* 腔隙, 陷窝
47. cementocyte [se'mentosait] *n.* 牙骨质细胞
48. osteocyte ['ɒstɪosait] *n.* 骨细胞

dentin for some time.

Penetrating caries occurs when the decay starts through the clinically undetectable²⁵ defects of enamel into deeper structures. Characteristic features are intact²⁶ or slightly carious fissures. Destruction of the dentin may develop without any marked decalcification of enamel. Sometimes this type of caries is detected only by X-ray examination.

Word List

- | | |
|--|--|
| 1. caries ['kæərii:z] <i>n.</i> 龋 | 的 |
| 2. definition [defi'niʃən] <i>n.</i> 定义 | 14. pronounced [prə'naunst] <i>a.</i> 明显的 |
| 3. flora ['flɔ:rə] (复 florae ['flɔ:ri:])
<i>n.</i> 菌丛 | 15. penetrate ['penitreit] <i>v.</i> 渗透入,
穿透 |
| 4. irreversible [iri'və:səbl] <i>a.</i> 不可逆
的 | 16. spot [spɒt] <i>n.</i> 点, 斑点 |
| 5. decay [di'kei] <i>n.</i> 腐蚀, 腐烂 | 17. chalky ['tʃɔ:ki] <i>a.</i> 白垩的, 象白垩
的 |
| 6. demineralization [di:minərəlai'zei-
ʃən] <i>n.</i> 脱矿质(作用), 脱钙 | 18. brittle ['britl] <i>a.</i> 易脆的; 易损坏
的 |
| 7. decomposition [di:kəmpə'ziʃən] <i>n.</i>
分解(作用) | 19. dissolve [di'zɒlv] <i>v.</i> 分解, 溶解 |
| 8. disintegration [disinti'greiʃən] <i>n.</i>
崩解, 瓦解(作用) | 20. environment [in'vaierəmənt] <i>n.</i> 周
围, 环境 |
| 9. cavitation [kævi'teiʃən] <i>n.</i> 成穴(作
用) | 21. soften ['sɒfn] <i>v.</i> 弄软, 使软化 |
| 10. predominantly [pri'dominəntli] <i>ad.</i>
主要地 | 22. matrix ['meitriks] (复 matrice ['mei-
trisi:z]) <i>n.</i> 基质 |
| 11. morphologic [mɔ:fə'lɒdʒik] <i>a.</i> 形态
学的 | 23. calcific [kæl'sifik] <i>a.</i> 钙化的 |
| 12. fissure ['fiʃə] <i>n.</i> 裂缝, 裂隙 | 24. retain [ri'tein] <i>v.</i> 保持, 保留 |
| 13. masticatory ['mæstikeitəri] <i>a.</i> 咀嚼 | 25. undetectable [ʌndi'tektəbl] <i>a.</i> 未被
发现的 |
| | 26. intact [in'tækt] <i>a.</i> 完整的 |

Notes

1. lead to 导致

The overwork of the left ventricle *leads to* its hypertrophy.

左心室的过度工作导致左心室的肥大。

2. it 是形式主语, 真正的主语是后面的不定式短语, 而其前面还冠有介词短语 for...。
for the first molar to undergo rapid destruction because of caries.

3. the organic matrix 是主语, 谓语是后面的 is sufficient.

4. although 引导的是其后省略了 it is 的让步状语从句。

soft tooth tissue that is usually accompanied by chalky enamel and stain surrounding the area is found^⑤.

The defective pits or hypoplastic¹³ areas of the tooth should be examined in the same way as the main pits and fossae^⑥ to determine whether^⑦ the enamel is broken. The tip of the explorer can be turned on its side to see if the surface of the hypoplasia¹⁴ is smooth. The sharp point of the explorer is used to examine the buccal and lingual grooves of the tooth to see if there are involvements¹⁵ or communications¹⁸ with the occlusal surface. The same rule governing the need for a restoration also applies to^⑧ these areas.

Examination of the proximal surface of the tooth is more difficult because the lesions are hidden¹⁷. The radiographs are magnified and observed on the view box to see if there are proximal involvements. Because of the angulation¹⁸ of the X-ray beam¹⁹ and the overlapping²⁰ of teeth, it might^⑨ be necessary to use other methods of examining the proximal surface. The explorer can be used in the gingival embrasure²¹ to locate most large lesions; however, the incipient²² involvement just below the contact area cannot be reached.

The use of waxed²³ dental floss is helpful in determining the smoothness of the surface in question^⑩. A 12-inch length is wrapped around the index²⁴ fingers and it is gently slipped²⁵ through the contact area on the bias²⁶. The examination is made by slowly moving the floss from the buccal to the lingual surface until the bottom of the free margin is reached. This enables the gingival embrasure to be polished^⑪, and if caries is present the string²⁷ will catch or be torn on removal. Caries should not be confused with calculus deposits for it is assumed that^⑫ a thorough prophylaxis²³ will be given before each examination.

If the condition of the proximal surface cannot be determined by the methods just described, the separator should be utilized. The teeth are parted to allow direct vision of the area in question, or the increased space can be used for a better examination with the dental floss or explorer. This method is time-consuming²⁹ and is used only as a last resort.

The dentition is examined in the manner described by inspecting each surface. The teeth are systematically examined to detect all pathologic conditions that need to be restored or recorded, and the caries or defects that need restoration are recorded on the chart. This information is used later to formulate³⁰ the treatment plan.

线，一直移到游离缘的底部。这样能磨擦牙龈楔状隙，如果存在龋齿，则牙线在移动中将被钩住或被扯断。龋齿不会与牙石相混淆，因为在每次检查前将充分作好牙周洁治。

如果邻接面的情况不能用上述的方法确定，那末可使用牙分离器。将牙齿分离至能够直视被检查的区域，或者可利用增大的间隙以牙线或探针作更好的检查。这种方法是费时的，只能作为最后的方法。

牙列也是用上述检查每一个牙面的方法来检查。系统地检查牙齿，探查需要修复或记录的所有病理情况，并将需要修复的龋齿或缺损都记录在病历上。这个资料用于以后制定治疗方案。

10. Acute Suppurative¹ Pulpitis²

Definition³. An acute suppurative pulpitis is an acute inflammation of the unexposed⁴ pulp, with an accumulation of pus and exudate⁵. If the pulp is exposed in one part but does not have sufficient drainage⁶ for the escape of the exudate and pus, an acute suppurative pulpitis may occur in an exposed pulp.

Etiology⁷. Acute suppurative pulpitis is caused by the entrance of infection into the pulp. It is of a progressive nature and is a more advanced condition than serous pulpitis. The presence of infection in the pulp at this stage of disease is the important factor in the rapid infiltration⁸ and liquefaction⁹ of the pulp tissue.

Clinical Pathology¹⁰ and Diagnosis. The transition¹¹ from a serous pulpitis involving a portion of a pulp to a suppurative condition is sometimes gradual and at other times, rapid. A partial pulpitis of a suppurative type may exhibit clinical symptoms that differ only in their severity¹² from those accompanying a total pulpitis. There is a great increase in the number of blood cells coming into the pulp. The accumulation of broken down cells, together with purulent exudate from liquefaction by the leukocytes forms abscesses¹³ in the pulp within the unyielding¹⁴ dentin walls. The rapid increase in exudate and pus greatly increases the pressure upon the odontoblasts¹⁵ and living pulp cells, and the increased pressure causes intense, pulsating¹⁶ pain. The limited capacity of the pulp cavity becomes overcrowded¹⁷ with blood cells and inflammatory exudate.

The pain is an intermittent¹⁸ throbbing¹⁹, violent pain that continues for a long period and becomes worse when heat is applied but usually is relieved with ice water. The patient usually experiences increased pain when reclining²⁰. The pain is frequently reflected²¹ to a tooth in the opposite jaw, the ear, or to a tooth anterior to the offending²² one. The tooth containing a suppurative pulpitis does not respond to

Notes

1. when reclining 是带有连词 when 的分词短语，作状语。
2. that is 也就是
在句中作插入语。
3. sensitive to... 对...敏感
4. with 这里的意思是“随着”。
5. after which a sedative antiseptic dressing is sealed upon the pulp for a day or two 是定语从句，它本身带有一个 before 引导的时间状语从句。
6. to recover from congestion 是不定式短语，作定语，说明 time。

10. 急性化脓性牙髓炎

定义：急性化脓性牙髓炎是未暴露牙髓的一种急性炎症，其中有脓液和渗出液积聚。如果牙髓已部分暴露但渗出液和脓液的引流仍不通畅，那末急性化脓性牙髓炎也可以发生在暴露的牙髓上。

病因：急性化脓性牙髓炎是由于感染进入牙髓引起。它是进行性的，较浆液性牙髓炎更为严重的一种疾患。疾病的这一时期，牙髓感染的存在是牙髓组织迅速浸润和液化的重要因素。

临床诊断和病理：从局限性浆液性牙髓炎转变到化脓状态，有时是逐渐的，有时是迅速的。限局性化脓性牙髓炎所具有的临床症状与全部牙髓炎的区别仅仅在于严重的程度。进入牙髓的血细胞数量大大增加。在硬的牙本质壁内的牙髓中，细胞分解产物的积聚以及白细胞液化的脓性渗出物形成脓肿。迅速增加的渗出液和脓液大大地增加了对造牙质细胞和活的牙髓细胞的压迫，引起剧烈的搏动性的疼痛。牙髓腔的有限容积被血细胞和炎症渗出物所挤塞。

疼痛是一种间歇性的、剧烈的跳痛，可持续一长的时间，加热时则加剧，但用冰水通常可缓解。病人躺下时疼痛加剧。疼痛常常反射到对颌的牙齿、耳朵或患牙前面的一个牙齿。患化脓性牙髓炎时，牙齿对电测验的反应没有正常牙髓那样敏捷，那就是说，其刺激阈高于正常。

化脓性牙髓炎在早期对叩诊不敏感，但后期由于炎症发展到根尖周围组织则可有轻度触痛。X线照相常有助于诊断根尖周围组织的轻度改变，从而确定可疑患牙的牙髓病变。

治疗：治疗在于立即开放髓腔以减轻压力。剧痛常在减轻压力后得以解除。接着用止痛防腐的敷料在牙髓上密封1至2天，然后在局麻下去除牙髓。在牙髓充血尚未消除以前，不要进行手术。在牙髓去除手术之前，表面炎症也应用止痛防腐的敷料加以控制。立即去除感染的牙髓，可招致根尖周围组织的病变。

“condensation²⁹” of peripheral bone is not limited to the apical cyst, but occurs in the case of chronic apical periodontitis as well. It is interesting to note that both “granuloma” and cyst may be invisible in the roentgenogram. Should either lesion grow entirely within cancellous³⁰ bone, the intact outer cortical³¹ plate of the alveolar process can impart a normal image³² despite³³ the presence of the lesion inside.

Direct observation of apical lesions at the time of surgery reveals much to the dentist. But many a small cyst, we may be sure^⑩, passes unnoticed during the clinical inspection. Only serial³⁴ microscopic sections, carefully studied, will reveal the epithelium-line cavity of the early cyst.

Word List

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|---|---|
| 1. sheet [ʃi:t] <i>n.</i> 被单 | 19. zone [zoun] <i>n.</i> 地带; 区域 |
| 2. ramify [ˈræmifai] <i>v.</i> 使分支, 使分叉 | 20. ramification [ræmifiˈkeɪʃən] <i>n.</i> 分支 |
| 3. accessory [ækˈsesəri] <i>a.</i> 附属的, 附加的 | 21. enucleate [iˈnju:kliet] <i>v.</i> 摘出, 剝出 |
| 4. consolidate [kənˈsɒlɪdeɪt] <i>v.</i> 使坚固, 加强, 巩固 | 22. outermost [ˈaʊtəməʊst] <i>a.</i> 最外面的; 远离中心的 |
| 5. permeate [ˈpɜːmieɪt] <i>v.</i> 渗入, 透过 | 23. perimeter [pəˈrɪmɪtə] <i>n.</i> 周界线; 视野计 |
| 6. dominate [ˈdɒmɪneɪt] <i>v.</i> 占优势; 支配 | 24. status quo [ˈsteɪtəs kwou] 现状 |
| 7. interrupt [ɪntəˈrʌpt] <i>v.</i> 中断 | 25. trabecula [trəˈbekjʊlə] (复 trabeculae [trəˈbekjuli:]) <i>n.</i> 小梁, 柱 |
| 8. curious [ˈkjʊəriəs] <i>a.</i> 奇妙的; 难以理解的 | 26. asymptomatic [æsimptəˈmætɪk] <i>a.</i> 无症状的 |
| 9. slippery [ˈslɪpəri] <i>a.</i> 滑的 | 27. radiopaque [ˈreɪdiəʊpeɪk] <i>a.</i> 辐射不透明的; 射线透不过的; X线阻射的 |
| 10. crystalline [ˈkrɪstəlɪn] <i>n.</i> 结晶性 | 28. circumference [səˈkʌmfərəns] <i>n.</i> 圆周; 周围; 周线 |
| 11. amber [ˈæmbə] <i>a.</i> 琥珀色的 | 29. condensation [kənˈdenˈseɪʃən] <i>n.</i> 凝聚 |
| 12. tint [tɪnt] <i>n.</i> 色泽, 色彩 | 30. cancellous [ˈkænsələs] <i>a.</i> 海绵状的 |
| 13. unique [juˈni:k] <i>a.</i> 独特的 | 31. cortical [ˈkɔːtɪkəl] <i>a.</i> 外皮的; 皮质的 |
| 14. aspirate [ˈæspəreɪt] <i>v.</i> 吸出 | 32. image [ˈɪmɪdʒ] <i>n.</i> 象, 图象 |
| 15. cholesterol [kəˈlestərəl] <i>n.</i> 胆固醇 | 33. despite [dɪsˈpaɪt] <i>prep.</i> 不管; 尽管 |
| 16. abundant [əˈbʌndənt] <i>a.</i> 丰富的, 充裕的, 充分的 | 34. serial [ˈsɪəriəl] <i>a.</i> 连续的; 一系列的 |
| 17. unmistakable [ʌnmɪsˈteɪkəbl] <i>a.</i> 不会弄错的, 清楚明白的 | |
| 18. encounter [ɪnˈkaʊntə] <i>v.</i> 遇到; 遭遇 | |

Notes

1. in common 共同的, 共同地

它们与牙槽骨的联接比较疏松。由此，常有可能完整地摘除一个根尖囊肿。偶尔，牙和囊肿一块儿被摘除。

当然，最外层的周界是牙槽骨。此骨常能反映囊肿的生长史和现状。常可见到周围有新生骨质，这能反映结缔组织的宽度因炎症减弱而变窄。我们能取得的大部分颌骨切片显示，在根尖囊肿边缘有致密骨的骨小梁存在。事实上，围绕囊肿所形成的骨和牙槽窝的牙槽骨（牙槽骨本身）有相似的外观。

根尖囊肿具有很多慢性根周炎的临床和X线的特征。这是可以预料到的。囊肿毕竟通常来源于根尖肉芽肿，并常是炎症组织块的一小部分。二者皆生长缓慢。二者皆无症状。很少扩展成比豌豆大。单靠X线要在两者之间作出区别通常是不可能的。X线既不能显出上皮衬，又不能显出囊内液。在周界区观察到一条细的X线阻射线，也不能作为诊断的依据。有些研究资料明确指出牙周骨质的“致密化”不仅限于根尖囊肿、也可发生在慢性根尖周炎。值得注意的是肉芽肿和囊肿二者在X线片上可能都看不出。假使每一病损都完全在海绵骨中生长，尽管在内部出现病损，完整的牙槽骨外皮质层也可显示一个正常的图象。

在手术中根尖组织的直接观察给牙医生启示较多。但我们相信，许多小的囊肿在临床检查时未被注意而漏诊。只有连续地作显微切片，仔细地研究，才能发现早期囊肿的上皮衬腔。

13. Periodontal Examination

Since the operator depends on a sense of touch to guide him in therapy, he must explore¹ or feel the character of the root surface prior to^① therapy.

The explorer transmits² to the operator's fingers a feeling^② of the character of the root surface. Deposits³, indentations⁴, furcations⁵, overhangs⁶, etc. can easily be detected with this instrument.

Explorers are delicate, light-weight instruments that may be sickle-shaped⁷ (no. 23) or rodlike with a short right-angle terminal bend (no. 17). These wirelike instruments are circular⁸ in cross section and end in a sharp point. The no. 17 explorer is used primarily⁹ for calculus detection.

Technique¹⁰

1. Hold the explorer with a light but firm modified pen grasp.
2. Establish your finger rest.
3. Insert the instrument carefully into the gingival sulcus until the resistance of the epithelial attachment is felt. The tip should be directed mesially¹¹ and lie flat against the tooth.
4. Use light exploratory¹² strokes¹³ to feel each surface.

The periodontal probe¹⁴ is an instrument used for examining periodontal pockets.