

Curso de Preparación ENAO 2017

Odontogénesis

Dr. Elías Ernesto Aguirre Siancas

Docente e Investigador. Concytec-REGINA. Reg. 0598

2017

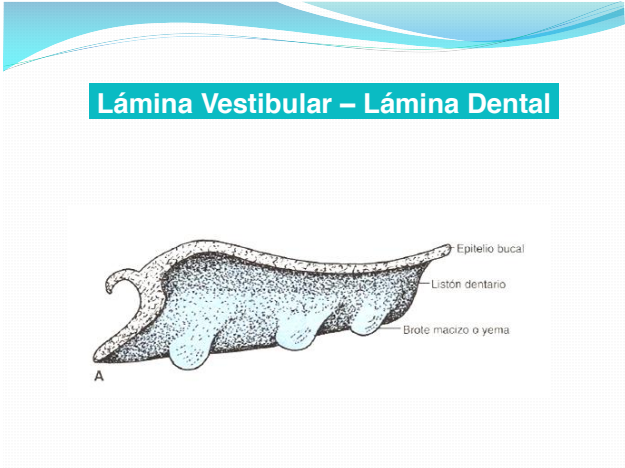
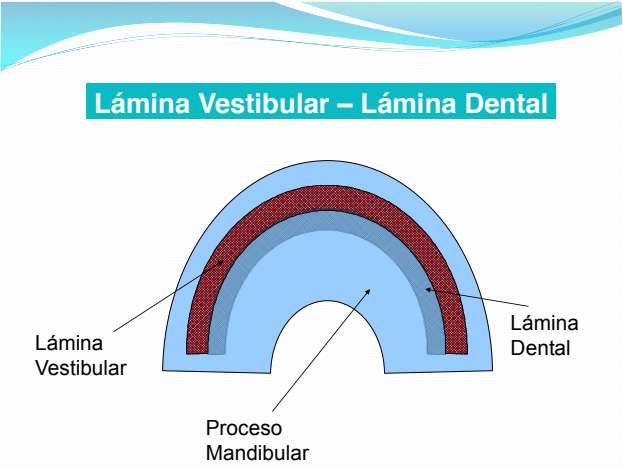
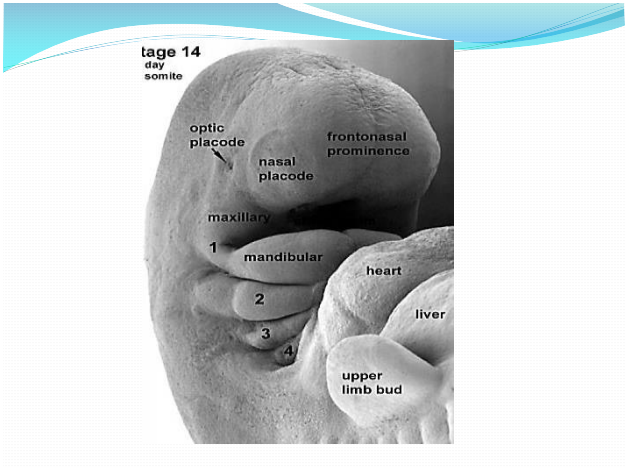


Lámina Vestibular – Lámina Dental

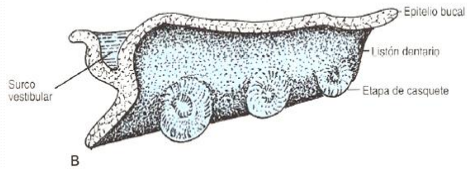
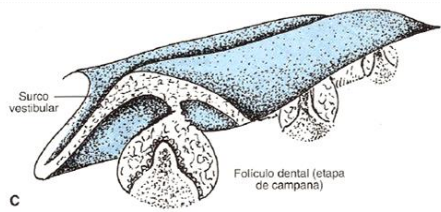


Lámina Vestibular – Lámina Dental

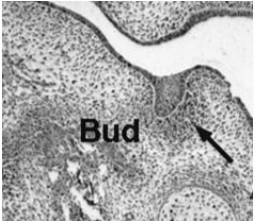


Estadios del Desarrollo del Germen Dentario

- Brote o yema
- Casquete o caperuza
- Campana temprana
 - Lámina sucesional
- Campana tardía
- Corona o aposición
- Formación de la raíz

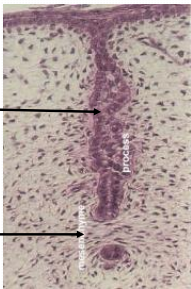
Estadio de Brote o Yema

- Octava semana de DIU



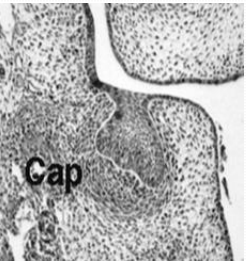
Ectodermo

Ectomesénquima

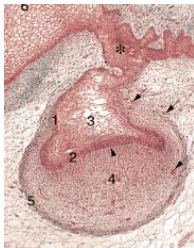


Estadio de Casquete

- Desde la novena semana de VIU



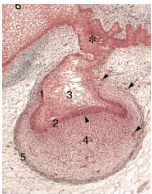
Estadio de Casquete



- 1. Epitelio externo
- 2. Epitelio interno
- 3. Reticulo estrellado en formación
- 4. Papila dental
- 5. Saco dental
- 6 Epitelio Bucal
- * Lámina dental

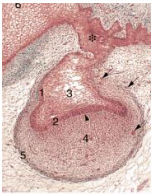
Epitelio Interno

- Estas células se diferenciarán formando los ameloblastos.
- Origen ectodermal.



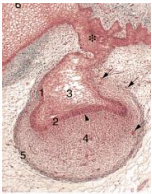
Papila Dental

- De la cual se deriva los odontoblastos y las células propias de la pulpa.
- Origen ectomesenquimal.

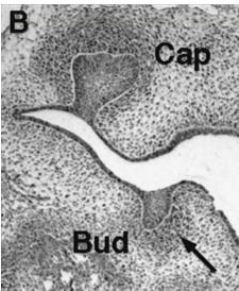


Saco Dental

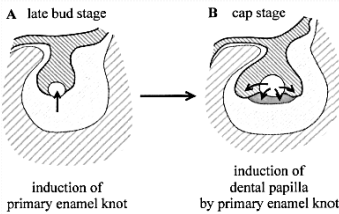
- Del cual se originarán tres tipos celulares: cementoblastos, fibroblastos y osteoblastos.
- Origen ectomesenquimal.



Brote y Casquete



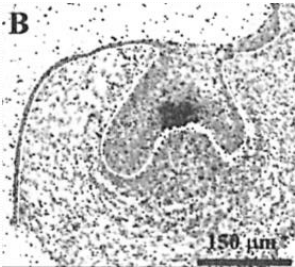
El Nudo del Esmalte



Nudo del Esmalte Primario

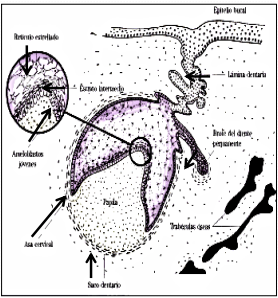
- Se forma en el epitelio ectodermal durante el estadio de brote y se hace evidente en el estadio de casquete.

Nudo del Esmalte Primario



Campana Temprana

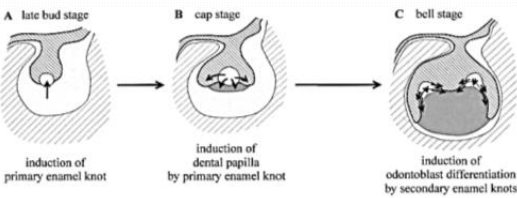
- Desde la décima primera semana de VIU



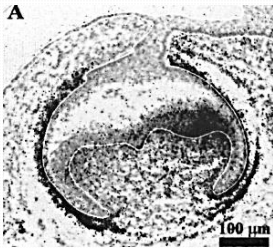
Estrato Intermedio

- Células planas que se ubican sobre el epitelio interno y son ricas en fosfatasa alcalina
- Origen ectodermal

Nudo del Esmalte Secundario

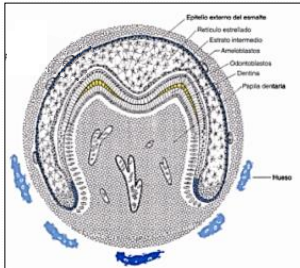


Nudo del Esmalte Secundario

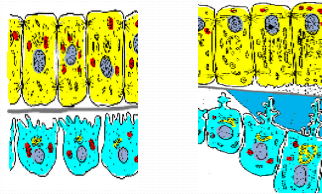


Campana Tardía

- Desde la décima quinta semana de VIU



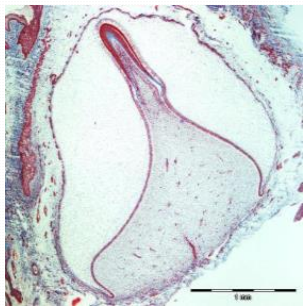
- La predentina induce la diferenciación final de las células del epitelio interno en AMELOBLASTOS



Corona o Aposición

- A partir de la décima novena semana de DIU
- Formación de esmalte y dentina
- Empieza en los bordes más altos del diente en dirección cervical

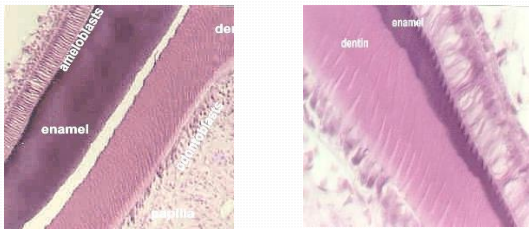
Aposición



Esmalte y Dentina



Ameloblastos – Estrato Intermedio – Odontoblastos

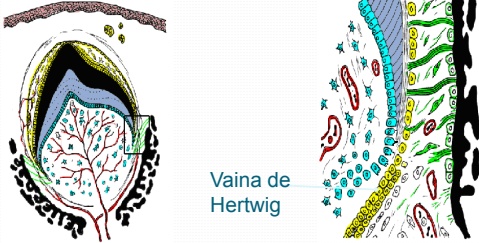


Formación de Raíz

- Se inicia cuando concluye la formación de la corona

Formación de la Vaina de Hertwig

- Se deriva del asa cervical



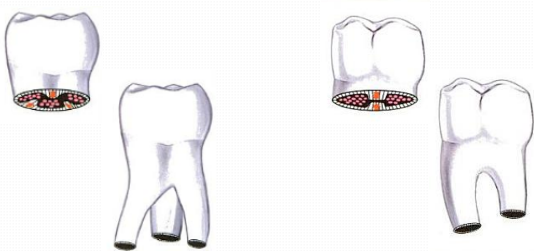
Vaina De Hertwig

- Tiene una función modeladora en la formación de la raíz
- Determinará el límite cemento dentinario

Formación de Raíz

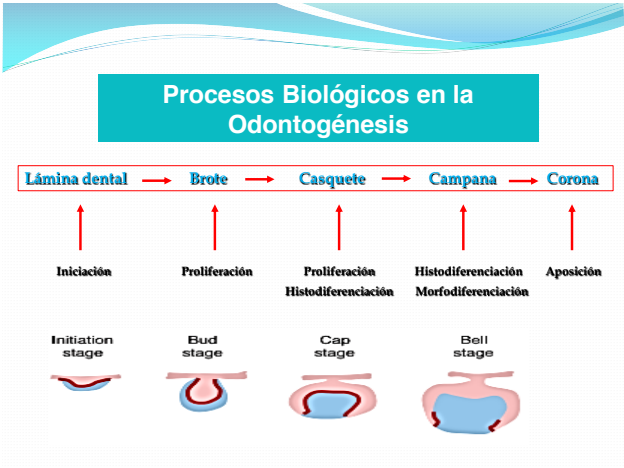


Diafragma Epitelial



STAGE AND TIME SPAN*	MICROSCOPIC STRUCTURE	MAIN PROCESSES	HISTOLOGIC FEATURES
Induction stage at tooth to seventh week		Induction	Ectoderm living, stomatoderm gives rise to oral epithelium and then to dental lamina, adjacent to deeper ectoderm, which is derived from the neural crest cells. Both tissue layers are separated by a basement membrane.
Bud stage at eighth week		Proliferation	Growth of dental lamina into bud stage that penetration growing ectoderm thence.
Cap stage at ninth to tenth week		Proliferation, differentiation, morphogenesis	Formation of tooth germ as enamel organ forms into cap shape that surrounds mesoderm of dental papilla, with an outpocketing of dental sac, both from the ectoderm.
Bud stage at eleventh to twelfth week		Proliferation, differentiation, morphogenesis	Differentiation of enamel organ into bud shape with four cell types and dental papilla into two cell types.
Apposition stage at various times		Induction, proliferation	Dental tissue layers apposed in succession layers in matrix.
Maturation stage at various times		Maturation	Dental tissue layers fully mineralized in matrix form.

*Note that there are approximate periods time spans for the development of the dental lamina.



37

Dientes maxilares								
	Incisivo central	Incisivo lateral	Canino	Primer premolar	Segundo premolar	Primer molar	Segundo molar	Tercer molar
Dentición permanente								
Calcificación inicial	3-4 m	10-12 m	4-5 m	1.5-1.75 a	2-2.25 a	al nacer	2.5-3 a	7-9 a
Corona desarrollada	4-5 a	4-5 a	6-7 a	5-6 a	6-7 a	2.5-3 a	7-8 a	12-16 a
Raíz desarrollada	10 a	11 a	13-15 a	12-13 a	12-14 a	9-10 a	14-16 a	18-25 a
Dientes mandibulares								
Calcificación inicial	3-4 m	3-4 m	4-5 m	1.5-2 a	2.25-2.5 a	al nacer	2.5-3 a	8-10 a
Corona desarrollada	4-5 a	4-5 a	6-7 a	5-6 a	6-7 a	2.5-3 a	7-8 a	12-16 a
Raíz desarrollada	9 a	10 a	12-14 a	12-13 a	13-14 a	9-10 a	14-15 a	18-25 a

Dientes maxilares					
Dentición decidua	Incisivo central	Incisivo lateral	Canino	Primer molar	Segundo molar
Calcificación inicial	16 s	18 s	19 s	19 s	20 s
Corona desarrollada	1.5 m	2.5 m	9 m	6 m	11 m
Raíz desarrollada	1.5 a	2 a	3.25 a	2.5 a	3 a
Dientes mandibulares					
Calcificación inicial	16 s	18 s	19 s	19 s	20 s
Corona desarrollada	2.5 m	3 m	9 m	5.5 m	10 m
Raíz desarrollada	1.5 a	1.5 a	3.25 a	2.5 a	3 a