Histology and Embryology

University Medicine · Vocabulary in context

Word	Example
histology and embryology	**Histology and embryology** study tissues and how the body develops before birth.
fixation /fɪk'seɪʃn/	**Fixation** keeps a tissue sample from rotting so it can be studied.
dehydration /ˌdi:haɪ'dreɪʃn/	**Dehydration** removes the water from a tissue sample before it goes into wax.
embedding	**Embedding** the tissue in wax makes it firm enough to cut.
sectioning	**Sectioning** cuts tissue into very thin slices.
staining	**Staining** colours the tissue so we can see it under a microscope.
H&E	**H&E** staining makes nuclei purple and cytoplasm pink.
epithelium /ˌepɪ'θi:lɪəm/	The gut is lined with **epithelium**.
simple	**Simple** epithelium has only one layer of cells.
stratified /'strætɪfaɪd/	**Stratified** epithelium has many layers of cells.
squamous	**Squamous** cells are thin and flat.
cuboidal	**Cuboidal** cells are shaped like cubes.
columnar	**Columnar** cells are tall and thin.

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connective tissue	Bone and blood are types of **connective tissue**.
extracellular matrix	The **extracellular matrix** is the material between cells, such as collagen.
collagen /'kɒlədʒn/	**Collagen** makes tendons strong.
muscle /'mʌsl/	**Muscle** gets shorter to make the body move.
intercalated disc	An **intercalated disc** joins heart muscle cells so they beat together.
nervous tissue	The brain is made of **nervous tissue**.
glia	**Glia** support and protect nerve cells.
sarcomere /'sɑ:kəmɪə/	Each **sarcomere** gets shorter when the muscle contracts.
tunica intima	The **tunica intima** is the thin inner lining of a blood vessel.
media /'mi:di:ə/	The **media** is the middle, muscular layer of an artery wall.
adventitia	The **adventitia** is the outer layer of a blood vessel.
alveolus	Each **alveolus** is a tiny air sac where oxygen enters the blood.
mucosa	The **mucosa** is the inner lining of the gut.
submucosa	The **submucosa** lies just under the gut lining.

Word	Example
muscularis externa	The **muscularis externa** squeezes food along the gut.
serosa	The **serosa** is the smooth outer covering of the gut.
nephron /ˈnefrɒn/	Each kidney has about a million tiny tubes, each one a **nephron**.
fenestrated capillaries	**Fenestrated capillaries** have small holes that let things pass quickly, as in the kidney.
stratified squamous keratinised	The skin is made of **stratified squamous keratinised** epithelium: many tough, flat layers.
fertilisation /ˌfɜːtɪlaɪˈzeɪʃn/	**Fertilisation** happens when a sperm joins an egg.
cleavage	In **cleavage**, the fertilised egg divides into more and more cells.
morula	A **morula** is a solid ball of about 16 cells.
blastocyst /ˈblæstəsɪst/	The **blastocyst** attaches to the womb about a week after fertilisation.
gastrulation	In **gastrulation**, a ball of cells becomes three layers.
neurulation	In **neurulation**, the embryo forms the tube that becomes the brain and spinal cord.
germ layers	The three **germ layers** form all the tissues of the body.
ectoderm	The **ectoderm** becomes the skin and the nervous system.

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Word	Example
mesoderm	The **mesoderm** becomes muscle, bone, blood and the heart.
endoderm	The **endoderm** becomes the lining of the gut.
septation	**Septation** divides the early heart into four chambers.
foramen ovale	The **foramen ovale** is a hole in the baby's heart that closes after birth.