MUNI MED Department of Histology and Embryology

Practice 4 Embryology I

1. Highlight principal differences between mitosis and meiosis, and apply the principles on spermatogenesis and oogenesis.
2. Define the following terms: capacitation, acrosomal reaction, and cortical reaction.
3. Describe an oocyte during ovulation (size, stage of meiosis, presence of zona pellucida, cumulus oophorus).
4. Graphically schematize and describe in detail the stages of early embryogenesis from fertilization to implantation (from zygote to blastocyst).
5. Graphically schematize and describe in detail the development of embryo and extraembryonic tissues in the 2nd week of development (identify hypoblast and epiblast layers)
6. Describe and graphically schematize development of embryo and extraembryonic tissues in the 3rd week of development (describe development of mesoderm and endoderm).
7. Describe and graphically schematize development of chorda dorsalis (notochord) from the primitive pit, through the notochordal process and the canal of Lieberkühn.
8. Why is the notochord so important during development?

Recommended study materials: Presentations from practices and lectures, Atlas of Cytology and Embryology (online), Langman's medical embryology, Developing human.