

CIR 860 BIOCHEMICAL AND CELLULAR ELEMENTS INVOLVED ON THE TISSUE REPAIR

Workload: 30h

Credits: 02

Nature: Optional Master and PhD

Professor: Ivana Duval de Araújo

Discipline Syllabus: The tissue injury triggers a complex process of biochemical and cellular events that, interacting with each other, are responsible for the repair of the injured tissue, aiming at the functional recovery of the individual. The tissue repair process, which begins immediately after injury, is dependent on the synthesis of both growth factors, cytokines and low molecular weight compounds, both by platelets and activated macrophages, whose function is to stimulate, in a controlled and Coordinate the processes of mitosis and synthesis of substances responsible for the tissue restoration. In its various phases, ranging from inflammation to remodeling, many factors, local or general, have a beneficial or deleterious effect on the healing process, having as a consequence from problems with little impact on the life and health of the individual until problems Such as functional sequelae, absenteeism at work and death. The primary objective of this course is to discuss the main elements involved in the various phases of organic tissue healing, their particularities, the study models of the healing process and the main beneficial and deleterious interventions in each phase.

Program Module I - Coagulation and inflammation a) mediators involved b) particularities of the tissues: skin, digestive tract, liver, heart, bones, tendons c) factors that interfere with the production of biochemical mediators in skin, digestive tract, Module II - Epithelialization a) mediators involved b) particularities of the tissues: skin, digestive tract, liver, heart, heart, bones, tendons d) factors that interfere with cellular function in skin, digestive tract, Bone, tendons c) factors that interfere with the production of biochemical mediators in skin, digestive tract, liver, heart, bones, tendons d) factors that interfere with cellular function in skin, digestive tract, liver, heart, bones, tendons Module III - The synthesis of collagen a) mediators involved b) particularities of the tissues: skin, digestive tract, liver, heart, bones, tendons

c) factors that interfere with production Of biochemical mediators in skin, digestive tract, liver, heart, bones, tendons d) factors that interfere with cellular function in skin, digestive tract, liver, heart, bones, tendons Module IV a) main models of healing process study: Histopathology in the different phases of the healing process in skin, digestive tract, liver, heart, bones, tendons c) Special staining in histopathology and immunohistochemistry to evaluate particularities of the different stages of healing In skin, digestive tract, liver, heart, bones, tendons

Bibliographic References:

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Muniz BF, Netto GM, Ferreira MJ, Prata LO, Mayrink CC, Guimarães YL, Caliarì MV, Duval-Araujo I. Neutrophilic infiltration in lungs of mice with peritonitis in acid or basic medium. *Int J Clin Exp Med*. 2015 Apr 15;8(4):5812-7.

Júnior MF, Batista SA, Barbuto RC, Gomes AD, Queiroz DM, Araújo ID, Caliarì MV. CagA-positive *Helicobacter pylori* strain containing three EPIYA C phosphorylation sites produces increase of G cell and decrease of D cell in experimentally infected gerbils (*Meriones unguiculatus*). *Adv Med Sci*. 2016. Sep;61(2):231-236.

Duarte IG, Duval-Araujo I. Amniotic membrane as a biological dressing in infected wound healing in rabbits. *Acta Cir Bras*. 2014 May;29(5):334-9.