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Title: ***Characterizing and modifying the microenvironment of full-thickness wounds to improve healing***
Karakterisering og modificering af mickromiljoet I en fuld-huds saar, med formal at forbedre heling

- Background

In Europe the cost of wound care poses a great burden on the healthcare system. Currently it is estimated that the prevalence is 1.5-2 million individuals, and that 25-50% of acute hospital beds are occupied by patients with a wound, some developed under hospitalization. In general a patient with an extensive burn will be hospitalized approximately 1 day for each percent TBSA (total body surface area) of burned skin, as a result of a very cumbersome and expensive treatment involving specialized material and highly trained personnel. In many patients, normal skin integrity will never be restored, and disfigurement, hyperpigmentation, loss of sensation and poor vascularization will lead to reoperations, decreased barrier function and reduced quality of life

- Aim

To define the microenvironment of full-thickness excisional wounds in regards to soluble factors and physiological parameters, by measuring pro-inflammatory cytokines and monitor physiological parameters such as temperature, pH and substrate availability. Furthermore to optimize the microenvironment to accelerate healing and reduce scar formation following full-thickness excisional wounds, by increasing substrate availability (e.g. glucose), reduce inflammation and modify signaling by altering the pH and the concentration of a subset of bioactive factors.

- Methods

Up to 6 circular (3 cm in diameter) excisional wounds will be created on the dorsum of a rat in paraspinal strips. A 4 mm pucnh-biopsy and 10 mm puch-biobsy, are used to create a wound on a skin island, in a wound. An enclosed titanium chamber will be implemented to control the microenvironment of the wounds. Wounds will be separated by at least 2 cm of unwounded skin.