

## Healing of gingival wounds

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The recent advancements in the wound healing process will be reviewed in this presentation. Because of the excessive amount of information, this presentation is limited to two major events in wound healing, namely reepithelialization and granulation tissue formation, leaving out many other key events such as clot formation and angiogenesis. The special features of wound healing in oral cavity, especially in the gingival will be discussed. Most of the data presented will focus to the studies with gingival and dermal full-thickness wounds. Special links will be made, however, to the healing in tooth-gingiva interphase during tissue regeneration. During wound healing, several molecules that are usually present only during embryonic development are found in the epithelium and granulation tissue. After wounding, epithelial cells start to express new extracellular matrix proteins and receptors that are not normally present in the resting epithelium. Special signaling pathways regulate the migratory cell phenotype which information may be useful for development of tools aimed at controlling epithelial cell migration during regeneration. Fibroblastic cells with a special phenotype appear in the healing granulation tissue. The wound environment influences expression of various proteins by these resident cells. Expression of thousands of genes is altered by wounding and can be analyzed by new gene chip technologies. Examples of regulation of some of these genes during gingival repair will be given and discussed.

## EDUCATION:

- 1978 DDS. in University of Turku, Finland
- 1966-1971 Ph.D. course, Faculty of Dentistry. Received a Ph.D. in March, 1971.
- 1984 PhD in University of Turku, Finland
- 1987 Specialty training in periodontics
- 1987-1990 National Institutes of Health and University of Alabama at Birmingham
- 1993 *Chair* of Division of Periodontics and Dental Hygiene  
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in University of British Columbia, Vancouver, Canada
- published over 100 original papers on various topics in the area of periodontics and wound healing