

cal discrepancies. Furthermore there is far greater control of the vertical and horizontal aspects of the four tooth incisor segment.

Therefore the lateral-canine segmentalization scheme

provides the greatest flexibility for a positive esthetic outcome by having direct control over the three dimensional aspects of the maxillary dental units

This presentation will highlight these concepts.

SYMPOSIUM ON MORBIDITY & MORTALITY CONFERENCE: WEIGHT EXTREMES

Wednesday, October 10, 2007, 12:30 pm-2:30 pm

Case Presenter: Lewis N. Estabrooks, DMD, Saint Petersburg, FL

Panelists: O. Ross Beirne, DMD, PhD, Seattle, WA

David W. Todd, DMD, MD, Lakewood, NY

Henry Windell, DMD, Gresham, OR

The material for this M&M will come from actual cases that have been presented to OMSNIC (Oral and Maxillofacial Surgery National Insurance Company). This year the conference will use an automated audience response system. The audience will be presented aspects of a case

and asked to reply as to their personal preferred treatment of the situation as it occurred. The respondents on the panel will then discuss how to treat the event and what if anything should or could have been done differently to affect the outcome.

SYMPOSIUM ON TISSUE-ENGINEERED HUMAN ORAL MUCOSA: FROM THE BENCH TO THE BEDSIDE

Wednesday, October 10, 2007, 12:30 pm-2:30 pm

Basic Science of Keratinocytes and Epidermal Substitutes or the Life and Tribulations of the Human Keratinocyte

Cynthia L. Marcelo, PhD, Ann Arbor, MI

No abstract provided.

Development and Characterization of a Human Tissue-Engineered Oral Mucosa

Kenji Izumi, DDS, PhD, Ann Arbor, MI

Open wounds in the mouth should be covered by a graft to prevent microbial infection, excessive fluid loss, foreign material contamination, or relapse (secondary to wound contracture). Currently oral mucosal or skin grafts are used for this purpose; however, both of these grafts require a second surgical procedure and have disadvantages in intraoral use. Split thickness skin grafts may contain adnexal structures, and express a different pattern of surface keratinization. The elective nature of the majority of oral and maxillofacial surgical procedures should allow the flexibility and timing to develop a tissue-engineered oral mucosa. As a tissue-engineered skin has been developed to treat patients suffering burn wounds, chronic ulcers, etc, there is a similar need for the development of a tissue-engineered oral mucosa suit-

able for intraoral grafting procedures. This graft would be used after major trauma, surgical resections, and for maxillofacial prosthetic surgery.

Our research team has been successful in developing an ex vivo produced oral mucosal equivalent (EVPOME) fabricated in an environment free of serum, transformed irradiated feeder cells and pituitary extract. Our EVPOME consists of autologous oral mucosa keratinocytes and an acellular, non-immunogenic dermal equivalent, AlloDerm. The EVPOME was cultured at an air-liquid interface for up to two weeks, resulting in a well-differentiated, parakeratinized epithelial layer similar to native oral mucosa. The expression pattern of differentiation and proliferation markers showed an active and hyperproliferative state. The ultrastructure of EVPOME demonstrated hemi-desmosome-like structures were formed at the interface (basement membrane) of basal keratinocytes and a dermal layer by day 7 at an air-liquid interface.

Tissue-engineered cell-based products usually fall under the auspices of the Center for Biological Evaluation and Research (CBER). They are considered a combination product by the Food and Drug Administration (FDA), and need to comply with the regulatory standards for determining safety and efficacy. Animal models are important to determine for conventional safety and efficacy. The SCID mice transplantation model (small animal) allowed us to investigate how EVPOME behaves in