

Imaging on Oral and Maxillofacial Regions

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Image Article

The oral and maxillofacial regions have numerous tissue types and intricate anatomical structures that serve essential health and aesthetic purposes. Bioactive materials with the potential to treat oral and maxillofacial diseases include biodegradable metals (BMs).

The current state of research on BMs for oral and maxillofacial applications as well as potential future research directions are outlined in this summary. Bone fracture fixation systems based on Mg- and Zn-

based BMs, as well as guided bone regeneration (GBR) membranes, are the subject of in-depth discussion. Clinical translation holds great promise for Zn-based BMs with superior mechanical properties for GBR membranes and a moderate degradation rate [1,2].

Due to their insoluble degradation products and relatively slow degradation rate, Fe-based BMs severely restrict their clinical application. Additionally, we suggested BMs containing hydrogels for the regeneration of cartilage, soft tissue, and nerves as well as 3D-printed BM bone scaffolds, surface modification for BM GBR membranes, and other potential future research directions for BMs in the oral and maxillofacial regions. The development of BMs in the oral and maxillofacial regions has made progress that can be used for clinical translation in the future (Figure 1).

References

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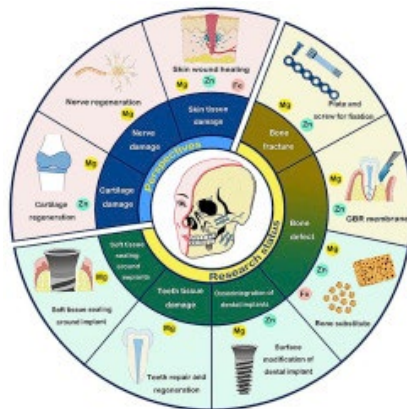


Figure 1: Graphical representation of oral and maxillofacial regions.

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Received: 02-Feb-2023, Manuscript No. roa-23-90057; Editor assigned: 04-Feb-2023, PreQC No. roa-23-90057 (PQ); Reviewed: 18-Feb-2023, QC No. roa-23-90057; Revised: 21-Feb-2023, Manuscript No. roa-23-90057 (R); Published: 28-Feb-2023, DOI: 10.4172/2167-7964.1000426

Citation: Gupta S (2023) Imaging on Oral and Maxillofacial Regions. *OMICS J Radiol* 12: 426.

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