



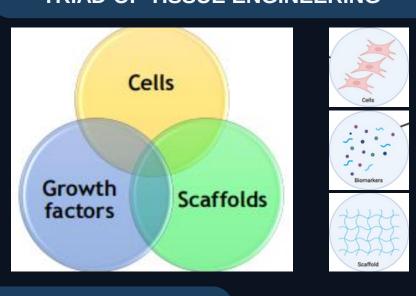


# REPs REVAMPED: EXPLORING THE FRONTIERS OF REGENERATIVE ENDODONTIC PROCEDURES

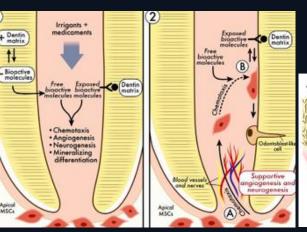
## **DEFINITION**

Regenerative endodontics can be defined as biologically based procedures designed to replace damaged structures including dentin and root structures as well as cells of the pulp dentin complex

## TRIAD OF TISSUE ENGINEERING



## **BIOLOGICAL CUE**



## **CELL FREE APPROACH**

Outcomes

**Patient-Based** 

Outcomes



## **SUCCESS OF REPS**



### Scientist-Based Outcomes Histologic evidence of complete regeneration

Clinician-Based Radiographic healing Radiographic root development

· Positive vitality responses

Resolution of disease (absence of swelling, drainage, and pain)

**CELL BASED APPROACH** 

Cell-Based Regenerative Endodontic Therapy

- · Tooth survival and function
- Tooth esthetics

# **ADVANTAGES**

- Preserving tooth vitality
- Root maturation
- Tissue growth
- Promoting normal functions

# **CHALLENGES IN REPS**

- Disinfection
- Dental Pulp Stem Cell Differentiation
- To obtain autogenous stem cells
- Limited spatial control

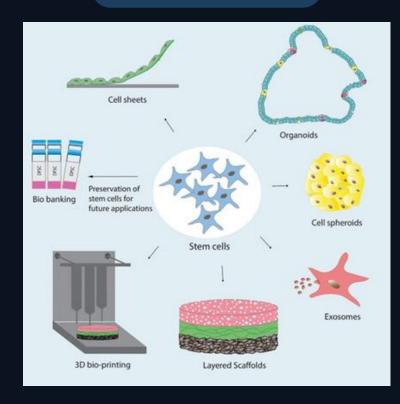
## DISADVANTAGES

- Tooth discoloration
- Intracanal calcification
- ∘ Crown root fracture
- Undesired tissues formation

**FUTURE SCOPE** 

- Liquid Hydrogel to Rigid Scaffold
- Photopolymerisable Hydrogel
- Electrospun Nanofibers

## **CURRENT TRENDS**



#### **REFERENCE:**

Almoharib, Bander Khalid, et al. "Innovative Approaches in Regenerative Endodontics: A Review of Current Literature." International journal of health sciences 6.S10: 1684-1700.

Thalakiriyawa DS, Dissanayaka WL. Advances in regenerative dentistry approaches: An update. International dental journal. 2024 Feb 1;74(1):25-34.