39th IACDE National Conference

BAG IN ENDODONTICS - IS IT THE FUTURE ?

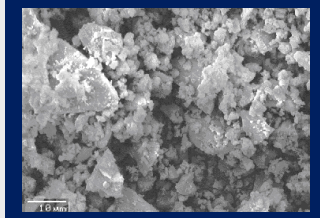
Bioactive glasses are a group of bioceramic materials that are biocompatible to tissues

HISTORY

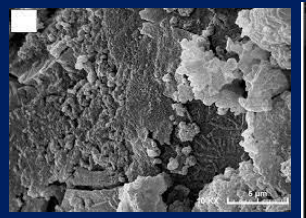
The first bioactive glass was invented by Larry .Hench in 1969

COMPOSITION

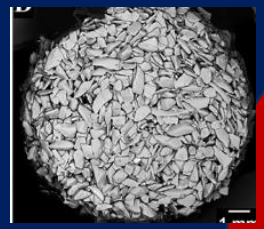
45S5 :SIO2(45%),Na2O(24.5%),CaO(24.5%),P205(6%)
42S5 :SIO2(42.1%),Na2O(26.3%),CaO(29),P2O5(2.6)
S53P4:SIO2(53),Na2O(23), CaO(20),P2O5(4)



45S5



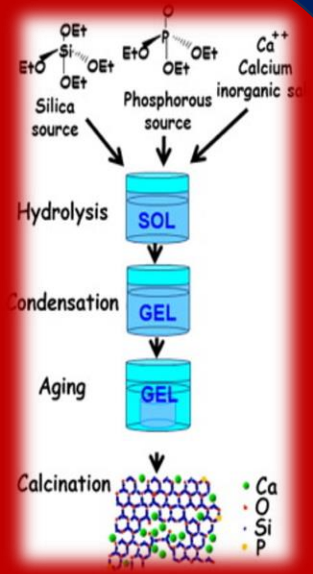
42S5



S53P4

ADVANTAGES:

Biocompatible
Non toxic
Do not shrink
Osteoconductive action
Versatility(available in various forms)
Anti-bacterial properties



Removal of extrinsic strains-

BAG has ability to release Ca & P ions that can help re-mineralize enamel

Pulp capping agent-

It has ability to stimulate formation of hydroxyapatite, helps to form barrier

Dentine desensitizer-

BAG releases ca,p& silicate ions that interact with tooth and precipitate to form HCA forms protective layer over exposed dentinal tubules

Root canal disinfection-

Release of alkaline ions(Na)can rise the pH making it less favourable for bacterial growth

Earth sequence RC Seals-

BAG has ability to remineralize, provide anti bacterial action, improved adaptation.