

# Evidence based clinical efficacy of glass -ionomers as tooth restorations and fissure sealants

Published by The University of the Witwatersrand, Johannesburg, 2016.

ISBN number 978-0-620-68083-7

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Seven Chapters and 211 pages.

This is an innovative book, intriguing in concept and challenging in content. The authors have assembled nine of their papers into a coherent presentation which comprehensively explores the clinical efficacy of glass ionomer restorations. The papers reflect the most thorough analysis of the literature dealing with glass ionomer as a restorative material in comparison with the traditional amalgam and gold standards.



The papers emanate from a unit based in the Department of Community Dentistry of the University of the Witwatersrand, Johannesburg. The System Initiative is the shortened version of the complete title of the unit..... Systematic Review Initiative for Evidence-based Minimum Intervention in Dentistry. The three main objectives are:

- To develop the basis for evidence-based teaching concerning Minimum Intervention-related topics
- To generate evidence-based practice guidelines for clinical service delivery
- To provide recommendations for further research.

SYSTEM has adopted the use of systematic reviews in seeking to achieve these objectives.

The collection of essays reflects that approach, for the papers are based on meta analyses of the related and cogent literature.

Comprehensive and meticulous literature searches characterise the determination and selection of those publications which meet the criteria and robust statistical methods are applied to extract the most reliable evidence on which clinical decisions may be based. The search conducted for one paper involved an original data base of 1359 articles. The stringency of selection may be gauged when only 20 trials were accepted for further review and data extraction.

And the evidence of the analyses challenges the widely held concepts of the relative clinical inferiority of high viscosity glass ionomers in comparison with the current gold standard of amalgam. Further that the efficacy of glass ionomers as pit and fissure sealants has not been shown to be inferior to other methods.

The nine papers are organised into sections useful to the reader who may seek information in a particular topic. The two main divisions present papers on Glass Ionomers as Tooth Restorations and Glass Ionomers as Fissure Sealants. Included in the first are papers dealing with:

A critique of the laboratory evidence

A critique of the evidence from uncontrolled clinical trials

Evidence from controlled clinical trials

Evidence synthesis.

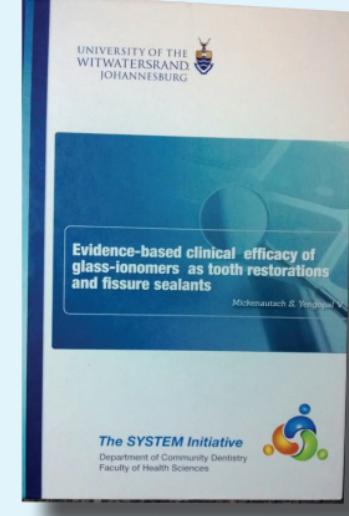
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The second division includes:

- Retention rate, an invalid predictor for dental caries.
- Retention rate, an invalid surrogate for dental caries
- Glass ionomers as fissure sealants, systematic review evidence.

There are key statements which provide the lead to the conclusions which the systematic reviews generate.

*"The results of SYSTEM's meta-epidemiological study show that statements concerning glass ionomer's inferiority to amalgam and other types of materials are based on incorrect statistical comparison methods."*



*"The conclusion of the new findings suggest the need for adopting clinical outcomes, such as caries occurrence rate in formerly sealed teeth as the ruling quality criterion for pit and fissure sealants, instead of sealant material retention".*

*"There is a danger in the dental community that invalid criteria may lead to an unjust rejection of valid sealant materials"*

A most useful feature is the inclusion of an Executive Summary as a prologue to each paper. These provide the reader with a succinct overview of the material and facilitate the plunge into the detailed statistics which dissect the evidence. Indeed, the statistical analyses are at first daunting in their complexities.. but the text is explicit and apposite and the reader has the opportunity to evaluate that evidence to his or her own satisfaction.

This is a book for the specialist which should also be explored by all who place restorations and sealants... contained is a wealth of relevant knowledge which will affect their clinical decisions.

All the papers originally appeared in open access Journals... their collection into one volume makes a powerful statement.

The authors have been meticulous in research, convincing in presentation and clearly impartial in assessment of the evidence.

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