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The Science of Fractography and Its Application in Fracture Mechanics of Brittle Materials

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Fractographic techniques applied on brittle dental materials will be introduced and presented as a powerful analytical tool help to understand the fracture process in either experimental specimens or clinically failed restorations. Fracture mechanics related to crack propagation will be outlined and the often underestimated influence of scatter on strength will be discussed.

The suggested proposal, preferably for a symposium format, would cover 1) the science of fractography and its application in fracture mechanics of brittle materials; 2) Applied fractography to clinical fractures and gained knowledge in failure analysis.

The final goal being to educate the dental materials researcher, showing the evolution and powerful research tool that is given by the science of fractography which should be more often implemented in clinical and laboratory dental component testing and failure analysis.