

**A STUDY OF PORE SIZE AND STRENGTH
OF DEAD AND LIVE PORITES**

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A STUDY OF PORE SIZE AND STRENGTH OF DEAD AND LIVE *PORITES*

BY

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“For my loved ones :

*Hj. Razali B. Abdullah, Hjh. Ashbah Bt.
Mohd Jan, Akhtar Razul, Khairol Ehsan,
Nada Liyana, Nurul Nadirah & Natasha.”*

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Sincerely,

Faisal Razul Bin Razali

ABSTRACT

This study was conducted to see if there is any difference in the pore size and mechanical strength between dead and live *Porites*. The result of this study will help in choosing the best part of *Porites* to be used as bone graft substitute. *Porites* heads were sampled from Bidong Island and brought back to the laboratory, and then were cut and cleaned before undergoing the measurement tests. To date, there is no scientific standard for running this type of test. The result of this study revealed that there is a significant difference in strength and number of pores between dead and live *Porites*, but there is no obvious difference in pore size between dead and live *Porites*. This study also showed that sterilization using Gamma ray does not affect the strength of samples. Based on the results, it is possible to say that live *Porites* is more suitable as bone graft substitute compared to dead *Porites*.

ABSTRAK

Kajian ini telah dijalankan untuk melihat perbezaan pada saiz liang dan kekuatan mekanikal diantara *Porites* hidup dan mati. Hasil keputusan kajian ini diharap dapat membantu dalam memilih bahagian yang terbaik daripada *Porites* untuk kegunaan pembuatan tulang gentian. Sampel yang diambil dari Pulau Bidong telah dibawa ke makmal dan dipotong dan kemudian menjalani proses pembersihan dan pengukuran. Buat masa ini, tiada standard saintifik yang telah ditetapkan bagi ujian ini. Keputusan daripada ujian yang telah dijalankan telah menunjukkan terdapat perbezaan dari segi bilangan liang dan kekuatan diantara *Porites* hidup dan mati. Namun dari ujian juga telah mendapati bahawa tiada perbezaan yang ketara bagi saiz liang diantara *Porites* hidup dan mati. Ujian juga telah mendapati bahawa pensterilan sampel dengan menggunakan sinaran Gamma tidak memberi kesan yang jelas dalam menjejaskan kekuatan sampel. Setelah diteliti kesemua keputusan dari ujian yang telah dijalankan, disini boleh dikatakan *Porites* yang hidup adalah lebih sesuai untuk digunakan sebagai bahan gantian kepada tulang.