

NEWS FROM:



Communication and Marketing Department
Isebe loThungelwano neNtengiso
Kommunikasie en Bemakingsdepartement

Private Bag X3, Rondebosch 7701, South Africa
La Grotto House, Glendarrach Rd, Rondebosch, Cape Town
Tel: +27 (0) 21 650-3733/2, Fax: +27 (0) 21 650-5682
Internet: www.uct.ac.za

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UCT researcher develops self-regulating vacuum dressing for wounds

University of Cape Town doctoral student Dr Nicolas Kairinos' thesis, *The biomechanics of negative-pressure wound therapy*, finds that, contrary to common perception, negative-pressure wound dressings do not reduce tissue pressure but increase it, resulting in accelerated wound healing.

His research resulted in the concept of a new type of vacuum dressing that regulates its own suction pressure so that wound pressures are always optimal for healing. This "dressing" is regarded by many as one of the biggest advances in wound care in over a century, yet its mechanism of action is not fully understood.

Using three different modalities (radioisotope perfusion imaging, transcutaneous partial pressure of oxygen and thermography) he demonstrated that these dressings reduce perfusion. This conflicts with current literature, which has shown (using laser Doppler) that they increase perfusion. He then conducted experiments which exposed a flaw in the laser Doppler's measuring technique when used in the setting of negative-pressure wound therapy, explaining the conflicting findings of current literature. He has presented his research at a number of congresses, both locally and internationally.

Dr Kairinos obtained his MB ChB from the University of Orange Free State in 1996. He spent some time in the UK after his houseman year where he completed his MRCS diploma at the Royal College of Surgeons of England. On returning to South Africa he spent time in trauma surgery, where he undertook research in damage control surgery and obtained an MMed with distinction for this work. He then studied as a registrar in the Division of Plastic and Reconstructive Surgery at Groote Schuur/UCT. While a registrar, he began studies into the mechanism of action of negative-pressure wound therapy. Dr Kairinos' PhD was supervised by Professor Donald Hudson of the Department of Surgery.

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Please note: Information in this release is based on the supervisor's citation for the PhD thesis. UCT advises journalists to obtain a copy of the thesis and/or interview the PhD graduate to verify and expand on this information.

Issued by: UCT Communication and Marketing Department

Patricia Lucas

Tel: (021) 650 5428 Fax (021) 650 5628

Cell: 076 292 8047

E-mail: pat.lucas@uct.ac.za

University of Cape Town

Rondebosch

Website: www.uct.ac.za