Enhancing skin integrity: an interprofessional approach

Earlier this year the University of Huddersfield’s Institute of Skin Integrity and Infection Prevention in association with the Journal of Wound Care (JWC) held the first International Skin Integrity and Infection Prevention Conference. The 2-day event consisted of a mix of keynotes, symposia and short presentations from key opinion leaders and post graduate research students. Here Professor Karen Ousey and Dr Rachel Webb present the highlights of this event.

The first day opened with Professor Dan Bader (Professor of Bioengineering and Tissue Health, University of Southampton) presenting a comprehensive review of the data on this subject. Professor Amit Gefen (Professor of Biomedical Engineering, university of Tel Aviv) presented his work in a talk titled ‘Computer modelling and simulations for understanding chronic wounds and wound healing’. Professor Gefen discussed tissue deformation that may compromise skin integrity through distortion of cell shapes and structures which impair biological function. Wound measurement was critically discussed in the second symposium of the day, led by Dr Paul Chadwick (Consultant Podiatrist, Salford Royal NHS Foundation Trust), Dr Leigh Fleming (Subject leader, School of Computing and Engineering, University of Huddersfield) and Leanne Atkin (Vascular Nurse Specialist, Mid Yorkshire NHS Trust). They identified lack of research-based developments surrounding accurate wound measurement techniques for clinical practice explaining that there was an urgent need for investigation into this area.

The next talks concentrated on new technologies and how these can be used in the wound care arena. Dr Leigh Fleming and Dr Jess Power described three new technologies that have the ability to change the way we study and treat wounds: textiles, multidisciplinary innovation and 3D printing products explaining some of the areas where the ability to model and print in 3D could begin to help in the field of wound care. They also described the challenges of measuring skin integrity, when having to assess contact (pressure, area), condition (texture, moisture, temperature, integrity), performance (hydration, absorption, elasticity, strength), and interaction (pressure, shear, friction, temperature).

Professor Dan Bader (Professor of Bioengineering and Tissue Health, University of Southampton) presented his research focusing on bioengineering strategies in managing skin integrity. He demonstrated that the experimental approach adopting both biomechanical and microclimate measures, with the use of bio markers to assess the skins response to mechanical-induced irritation, can provide boundary conditions at the device skin interface using a computational approach. Professor Karen Ousey and Dr Cath O’Halloran explained the funding changes related to health professional education, highlighting how these may impact on clinical practice and innovation. The conference closed with Professor Karen-Leigh Edward, (Associate Professor, Australian Catholic University) who stated that an international interprofessional approach was essential to managing skin integrity effectively.

Throughout the 2 days, delegates questioned the science presented and related this to clinical practice. The interprofessional nature of the conference covered the importance of a range of professional disciplines working collaboratively in improving technology and enhancing the end users’ experience of health care. The University of Huddersfield’s Institute of Skin Integrity and Infection Prevention brings together a range of disciplines including health, engineering, biology, microbiology, pharmacy and art and design to ensure that new technologies and innovations are examined, developed and tested to meet the ever-changing needs of health care. JWC