Ensuring burn victims receive the best nutrition

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University of Adelaide researchers are working to solve one of the biggest problems of caring for critically ill burns victims – how to provide them with the nutrition they need to survive.

Getting the right level and type of nutrition to burns victims is a key to their recovery and survival. But these patients often face severe challenges.

"Major burns result in almost a doubling of the body's metabolic rate – so the body is using up energy much quicker than in a healthy person," says Professor Marianne Chapman, from the University's School of Medicine and the Intensive Care Unit at the Royal Adelaide Hospital (RAH).

"One of the difficulties faced by healthcare professionals is how to provide enough energy so that the patient does not experience what we call a 'metabolic debt', which may ultimately result in the person's death. How that nutrition is delivered also poses problems, especially if the patient requires mechanical breathing assistance in intensive care."

Professor Chapman, Associate Professor Adam Deane and their team have a research program studying gut function, nutrition delivery and how it affects recovery in survival in all types of critically ill patients, in the hopes of developing world's best practice in this area. They have a number of international collaborations – the research into burns nutrition has been conducted with colleagues from Canada.

In a recent study of 90 patients, they found that burns victims often suffered from substantial energy and protein deficits in the first few days of their admission to hospital.

"There are multiple reasons for this, including delays in the initiation of feeding, poor initial tolerance of the feed – which is provided directly into the patients' stomachs – and interruptions due to medical procedures, such as emergency surgery," Professor Chapman says.

She says nutritional guidelines have already been developed specifically for patients with burns, but the current guidelines have been largely based on expert opinion. "With our research, we're attempting to put some scientific rigour behind the practice," she says.

"The results of our studies so far show there is very clearly an association between deficits in energy and protein and patient mortality. Women also are more likely to die than men, which reflects the findings of international studies and is something that needs to be looked into further.

"At this stage we still don't know the optimum level of calories and protein needed to increase a patient's chances of survival. Further research is needed in this area," she says.

Provided by University of Adelaide