

Digestive dangers



This edition of the *Journal* includes a number of articles on the theme of nutrition, the abdomen and metabolic control. This is an often-neglected area of critical care and these articles should provide not only 'food for thought' but practical guidelines for both nurses and doctors practising in the critical care environment.

Hodgson¹ introduces the concept of 'enterocyte nutrition' – supporting the intestinal lining that is jeopardised by both circulatory shock and enteral starvation. Enterocytes not only actively absorb nutrients but also play a vital role in gut defence mechanisms.² He also tackles the problem of pre-anaesthetic starvation and the deleterious effect this has on nutrition, patient comfort and the metabolic response.³ It is hard to break the ingrained tradition of routinely withholding enteral feeds prior to surgery in intubated ICU patients even though this is completely illogical, unless the endotracheal tube needs to be removed during the procedure.

The importance of nursing critically ill patients with the backrest raised to 30 - 45°, particularly while administering enteral nutrition, is well known and one of the few evidence-based practices in our discipline. The head-up position reduces the incidence of intubation-associated pneumonia.⁴ Yet Perrie *et al.*'s⁵ article shows that not all nurses can estimate the angle of the backrest and suggests a simple device to aid this. What they do not mention is the frequently observed situation where the backrest is at the correct angle but the patient is lying horizontal – all scrunched up in the lower half of the bed. Remember, it's the height of the larynx above the stomach that counts!

Abdominal compartment syndrome (ACS) is becoming increasingly recognised as a problem leading to multiple organ failure in the ICU. In this issue we provide an overview of the topic⁶ and include the recommendations of the recent second world congress on ACS.⁷ It is likely that abdominal pressure is not measured routinely in all South African ICUs and when ACS occurs, it is not always easy to persuade surgeons to take the patient to theatre and leave the abdomen open. Paradoxically the head-up patient position increases intra-abdominal pressure and enteral nutrition is contraindicated in impending ACS,⁷ once

again illustrating that there is no simple, 'cookbook approach' to critical care.

Lastly, we are pleased to publish the national guidelines of the Critical Care Society of Southern Africa for glucose control in the ICU.⁸ Guidelines are important for this aspect of management as the practice of tight glucose control is now widespread, following van den Berghe *et al.*'s publications,^{9,10} but is also a practice fraught with the danger of permanent neurological damage from hypoglycaemia. Turner's meticulously researched guideline should provide a framework for units to develop safe practices in this area. A word of warning though: although the benefit of tight glucose control was clearly shown in surgical ICU patients, the benefit in medical ICU patients was only demonstrated in patients who had tight glucose control for more than 3 days, and there was an increased mortality in the treatment group who were in intensive care for less than 3 days.¹⁰ Furthermore, several as yet unpublished studies have not been able to validate the original work but have shown an increased risk of hypoglycaemia.^{11,12} Watch this space!

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- Hodgson E. Enterocyte protection: a new goal in ICU nutrition. *S Afr J Crit Care* 2007; 23: 6-8 (this issue).
- Deitch EA, Winterton J, Ma L, Berg R. The gut as a portal of entry for bacteremia: role of protein malnutrition. *Ann Surg* 1987; 205: 681-692.
- Scoop M, Nygren J, Thorell A, *et al.* Preoperative oral carbohydrate treatment attenuates endogenous glucose release 3 days after surgery. *Clin Nutr* 2004; 23: 733-741.
- Drakulovic B, Torres A, Bauer T, *et al.* Supine body position as a risk factor for nosocomial pneumonia in mechanically ventilated patients: a randomised trial. *Lancet* 1999; 354: 1851-1858.
- Perrie H, Windsor S, Scribante J. Nurses' accuracy in estimating backrest elevation. *S Afr J Crit Care* 2007; 23: 10-14 (this edition).
- Miller MGA, Michell WL. Intra-abdominal hypertension and the abdominal compartment syndrome. *S Afr J Crit Care* 2007; 23: 17-23 (this edition).
- Cheatham ML, Malbaine MLMG, Kirkpatrick A, *et al.* Results from the International Conference of Experts on Intra-abdominal Hypertension and Abdominal Compartment Syndrome. II. Recommendations. *Int Care Med* 2007; 33: 951-962.
- Turner R. Insulin administration for the strict control of blood glucose in the adult ICU – an evidence-based guideline. *S Afr J Crit Care* 2007; 23: 24-30 (this edition).
- Van den Berghe G, Wouters P, Weekers F, *et al.* Intensive insulin therapy in critically ill patients. *N Engl J Med* 2001; 345: 1359-1367.
- Van den Berghe G, Wilmer A, Hermans G, *et al.* Intensive insulin therapy in the medical ICU. *N Engl J Med* 2006; 354: 449-461.
- De La Rosa GD, Donado JH, Restrepo AH, *et al.* Tight glycemic control in patients in mixed intensive care unit (ICU): randomized, clinical trial. *Int Care Med* 2006; 32 (Suppl 1): S237.
- Azevedo JR, de Araujo LO, Azevedo RP, Silva WS, Cruz FL. Intensive insulin therapy versus glycemic control in critically ill patients: a prospective controlled trial. *Critical Care* 2007; 11 (Suppl 3): P82.