Midland Regional Hospital, Mullingar
Department of Clinical Nutrition & Dietetics

ESPEN VIRTUAL CONGRESS (2020)

KEY LEARNING POINTS

Increased risk of malnutrition and sarcopenia among positive COVID-19 patients

The novel communication strategies such as telemedicine

The prolonged recovery periods for patients post-hospital discharge

The heterogenic ICU patients and the benefits of indirect calorimetry in calculating nutritional requirements

The evolving nutritional interventions for patients with Chronic Kidney Disease (CKD)

FRESENIUS KABI
caring for life

Telemedicine: COVID and Beyond

By: ZeljkoKrznaric

The current global pandemic is influencing the delivery of healthcare worldwide. There has been a large shift from the traditional face to face medical consultations to telemedicine. The session, entitled, "Telemedicine: COVID and Beyond", examined nutrition in the context of the COVID-19 era for both COVID-19 positive patients and non-COVID-19 patients. Sarcopenia was highlighted as one of the major challenges of COVID-19. Interestingly, after 10 days of bed rest, there can be a significant decrease in muscle mass, without a significant change in total body weight. This is a key point to consider when conducting dietetic assessments, as it highlights the importance of nutrition focused physical examinations in patients who are diagnosed with COVID-19. The importance of continued access to nutritional care and the use of a remote nutrition screening tool, called the R-MAPP (**R**emote **M**alnutrition **A**pp or **R**emote **M**alnutrition in the **P**rimary **P**ractice), were also discussed. The R-MAPP combines two validated clinical tools for identifying nutritional risk and sarcopenia; the Malnutrition Universal Screening Tool ('MUST') and SARC-F (5-item questionnaire: **S**trength, **A**ssistance with walking, **R**ise from a chair, **C**limb stairs and **F**alls). Nutritional interventions are then advised based on the nutritional screening results. As a dietitian in an acute hospital, it is important to be aware of the screening tools that may be rolled out in primary practice. It is also possible that a reduction in the rates of malnutrition in acute hospitals would be observed with the implementation of such a tool, as it would allow for early identification and treatment in the community.

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Translating research evidence to clinical practice: Optimal nutrition care in the hospital and post-discharge to enhance recovery

By: Philipp Schuotz

During hospitalization, numerous conditions such as underlying diseases, comorbidity, inflammatory states and immobilization due to long hospital stay may contribute to patient's nutritional status as it increases patients' energy expenditure, while reducing their normal intake. Many studies have highlighted that malnutrition compromises the immune response, slows down the wound-healing process, delays recovery from illness, prolongs hospitalization, and increases mortality rate. Therefore, all hospitalized patients should undergo an assessment of their nutritional status. There is increasing evidence that nutrition support plays big role in patient recovery as malnutrition is a modifiable risk factor in patients with multiple comorbidities. The study mentioned in this sessioncompared long-term nutrition intervention with short-term nutrition intervention in reduction of severe complications. Similar finding in the study also showed that high-protein nutrition intervention compared with low-protein nutrition intervention has showed reduction of severe complications. These are interesting findings as we know that although malnourished patients often received nutrition intervention during their admission, only few of them continue the nutritional intervention after hospital discharge. This session has a huge impact in my practice and I learned that it is really important to continue the nutrition care afterhospital discharge. As mentioned in this session, high-protein nutrition intervention is the best first line approach of nutrition intervention since it is proven to be the most efficient nutrition intervention to reduce the morbidity and mortality in patient. •

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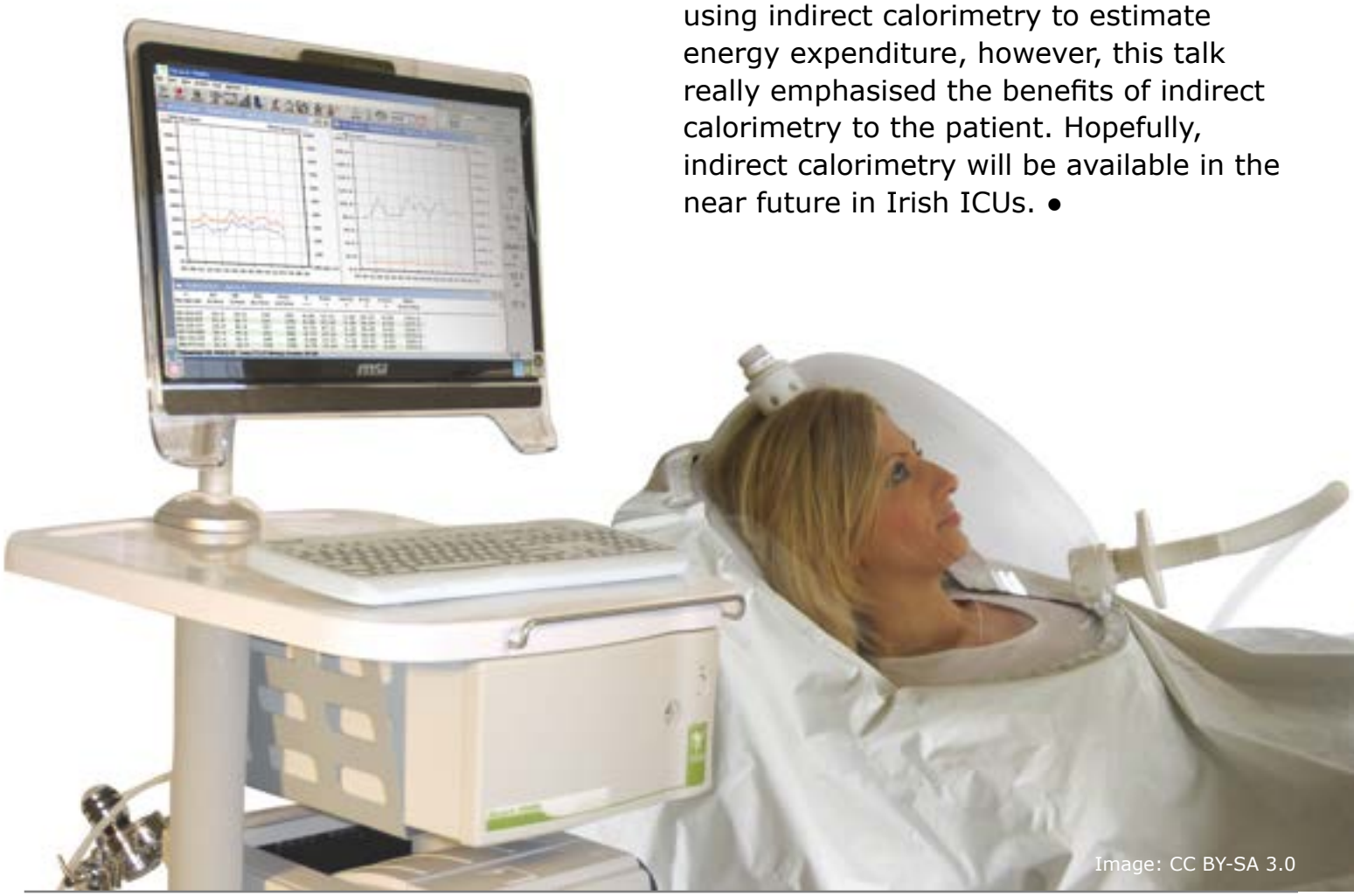
Using Indirect Calorimetry and the Positive Impact on Patient Outcomes by Enabling Accurate Provision of Energy Targets

By: Prof. Dr. med Elisabeth De Waele

This talk reinforced the ESPEN and ASPEN recommendations that indirect calorimetry is the gold standard method of estimating energy expenditure in ICU. Non-nutritional benefits of feeding patients to energy targets dictated by indirect calorimetry include reduced infection and mortality rates, which I was previously unaware of. This talk also emphasised that predictive equations are inaccurate for calculating resting energy expenditure due to the fact that ICU patients are heterogeneous with differing energy requirements. Furthermore, a patient's energy expenditure can vary daily depending on their clinical status and where they are at on their ICU journey. Given individual and daily variations in energy expenditure, ideally indirect calorimetry should be done initially on ICU admission and if/when there are changes in patient's clinical condition in order to meet energy targets. I learned that bedside metabolic carts are available and typically it takes atrained allied health professional or doctor 15minutes to measure energy expenditure using indirect calorimetry. I wasn't aware that having a tracheostomy in situ is a contraindication to preforming indirect calorimetry. This talk highlighted to me the advances in indirect calorimetry and how it is used widely in ICUs worldwide. As of yet, there are few, if any, ICUs in Ireland using indirect calorimetry to estimate energy expenditure, however, this talk really emphasised the benefits of indirect calorimetry to the patient. Hopefully, indirect calorimetry will be available in the near future in Irish ICUs. •



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Conservative Nutritional Treatments in Chronic Kidney Disease

By: Denis Fouque

This talk described the evidence for controlling protein intake in chronic kidney disease (CKD) to delay the start of dialysis. There is evidence that a high protein diet with renal hyperfiltration is associated with a rapid renal function decline. When it comes to dietary protein sources, red and processed meat consumption is associated with an increased risk of CKD while higher dietary intake of nuts, low fat dairy and legumes is associated with lower CKD risk. In patients with CKD, if protein intake is reduced from 1.1g/kg/day to 0.55g/kg/day, metabolic adaptation occurs and there is less degradation and better recycling of amino acids. In CKD, the body can adapt to a low protein diet without negative protein balance. The speaker, Denis Fouque, noted that those with CKD stages 1-3 should aim for low to normal protein intake (0.8g/kg/day) while those with CKD stages 4-5 should aim for protein restriction (0.6g/kg/day or 0.3-0.4g/kg/day with supplemented amino acids/ketoanalogues). I was not aware of such low protein diets being used in CKD so this was interesting to learn about the use of very low protein diets in more advanced CKD to delay the start of dialysis. The speaker also noted, in the final Q&A section of the talk, that it is not always appropriate for patients with CKD to follow a low protein diet. In CKD, it is possible to reduce protein intake without malnutrition. However, if a patient with CKD is malnourished/cachectic/has acute illness, they can have more protein (e.g. 1-1.2g/kg/day). Fouque did note that this is only temporary and once the acute illness has resolved, the patient should go back to a lower protein intake. Furthermore, Fouque noted in the case of pressure ulcers, patients with CKD do need more protein as they are not in a position to get sparing effect of low protein diet. A low protein diet would not be recommended in the case of pressure ulcers as this is an acute state. This clarification around protein intake in these acute patient types was useful as these are often the type of patients I would come across as a dietitian in the acute setting. This interesting talk and Q&A session will impact my recommendations for protein intake in the acute setting. •

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Hospital Acquired Weakness: Nutritional strategies to support strength and improve patient outcomes

By: David C. Evans

In recent years, there is an increased awareness of sarcopenia in an older cohort of patients, the ICU setting and more recently, amongst the COVID-19 positive patients. Sarcopenia is defined as a decrease in muscle mass and quality and physical performance. It consists of a metabolic and inflammatory response, resulting in an accelerated breakdown of muscle mass and decreased muscle protein synthesis. In the ICU setting, patients can experience up to 17% muscle mass loss. Sarcopenia further exacerbates this, prolonging the ventilation period and acting as a predictor of mortality. Research suggests that there is a 30% mortality rate amongst ICU patients with weaker handgrip strength, compared to a mortality rate of less than 10% in others. After discharge, muscle mass loss impacts on recovery, leading to increased re-admissions and associated complications such as impaired immunity (infections), decreased healing and pressure ulcers. In recent years, there has been a focus on the relationship between increased nutritional intake and physical function following critical illness. Studies have shown that a protein ramp up strategy in ICU has the highest survival rates. The gradual build up of nutritional support over 5 days to reach 0.8-1.2g/kg/day of protein on day 3-5 and >1.2g/kg/day on day 6, and thereafter improves long-term outcomes. Exercise, even light resistance movements, combined with relative equal doses of protein over the course of the day helps to maximise muscle protein synthesis and maintain muscle mass in the ICU setting. This strategy highlights the importance of a multi-disciplinary approach. In practice, collaboration between Dietitians and Physiotherapists ensures the most effective outcomes in sarcopenic patients are achieved. Future practice should encompass CT-based body compositional analysis as a risk assessment technique for patients at risk of sarcopenia. •

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