

## **ESPEN guidelines on nutrition in cancer patients.**

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#### **Abstract**

Cancers are among the leading causes of morbidity and mortality worldwide, and the number of new cases is expected to rise significantly over the next decades. At the same time, all types of cancer treatment, such as surgery, radiation therapy, and pharmacological therapies are improving in sophistication, precision and in the power to target specific characteristics of individual cancers. Thus, while many cancers may still not be cured they may be converted to chronic diseases. All of these treatments, however, are impeded or precluded by the frequent development of malnutrition and metabolic derangements in cancer patients, induced by the tumor or by its treatment. These evidence-based guidelines were developed to translate current best evidence and expert opinion into recommendations for multi-disciplinary teams responsible for identification, prevention, and treatment of reversible elements of malnutrition in adult cancer patients. The guidelines were commissioned and financially supported by ESPEN and by the European Partnership for Action Against Cancer (EPAAC), an EU level initiative. Members of the guideline group were selected by ESPEN to include a range of professions and fields of expertise. We searched for meta-analyses, systematic reviews and comparative studies based on clinical questions according to the PICO format. The evidence was evaluated and merged to develop clinical recommendations using the GRADE method. Due to the deficits in the available evidence, relevant still open questions were listed and should be addressed by future studies. Malnutrition and a loss of muscle mass are frequent in cancer patients and have a negative effect on clinical outcome. They may be driven by inadequate food intake, decreased physical activity and catabolic metabolic derangements. To screen for, prevent, assess in detail, monitor and treat malnutrition standard operating procedures, responsibilities and a quality control process should be established at each institution involved in treating cancer patients. All cancer patients should be screened regularly for the risk or the presence of malnutrition. In all patients - with the exception of end of life care - energy and substrate requirements should be met by offering in a step-wise manner nutritional interventions from counseling to parenteral nutrition. However, benefits and risks of nutritional interventions have to be balanced with special consideration in patients with advanced disease. Nutritional care should always be accompanied by exercise training. To counter malnutrition in patients with advanced cancer there are few pharmacological agents and pharmaconutrients with only limited effects. Cancer survivors should engage in regular physical activity and adopt a prudent diet. Copyright © 2016 European Society for Clinical Nutrition and Metabolism. Published by Elsevier Ltd.. All rights reserved.

#### **KEYWORDS:**

Anorexia; Cachexia; Cancer; Chemotherapy; Exercise training; Guideline; Hematopoietic stem cell transplantation; Malnutrition; Nutrition assessment; Nutrition therapy; Palliative care; Radiotherapy; Sarcopenia; Surgery