

Vit4Recovery: Vitamin status in patients with head and neck cancer

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Description of the initiative

- **Background:** Approximately 20% of patients with head and neck cancer (HNC) are malnourished at diagnosis. Dietary treatments focusses on adequate protein and energy intake. Little is known about the vitamin status of malnourished HNC patients. Vitamins are essential for metabolism, immune function and wound healing. Deficiencies as well as high-dose supplementation might be harmful, as both might counteract treatment.
- **Rationale for the initiative:** Malnutrition in combination with smoking and/or alcohol abuse, both HNC risk factors, might cause vitamin deficiencies, delaying wound healing and recovery in patients with HNC.

Planned activities & deliverables

- **Outline the steps to be taken:** Vitamin status in blood samples of newly diagnosed HNC will be assessed before surgery as well as nutritional intake and status, history of tobacco and alcohol use, co-morbidities, and inflammation.
- **What are the concrete deliverables of the project?** This pilot study will enhance our understanding of vitamin status and requirements in HNC patients, and enables us to further personalize dietary treatment for this vulnerable patient population.
- **What achievements are possible in the next 12 and 24 months?** Within the next 12 months, approval of the medical ethical committee is obtained, study logistics are prepared, and the first 15 patients are included. Within 24 months a total of 30 patients are included, samples and data are analysed and a manuscript as well as a presentation of the results are prepared.

Objectives and scope:

- To measure the **levels of vitamin A, B, C and E** in blood samples among newly diagnosed HNC patients.
- To gain insight into **risk factors for vitamin deficiencies**
- To further **personalize dietary treatment** for HNC patients

Resources & enablers

- **Describe personnel, financial needs and specify how the grant will be spent**
A salary budget of €30.000 is required for one researcher for the duration of 24 months at 0.14 FTE to establish study logistics, obtain ethical approval, include patients, analyse data and prepare the manuscript. For sample analysis, €2.900 is required. In addition, costs for METC procedure, publication, overhead, sample storage and transportation are €7.000.
- **What factors will make it successful?** With the complementary expertise within our team on HNC, nutrition and laboratory diagnosis of vitamins in blood we can successfully complete this project. With our results we are able to identify patients with HNC at risk for vitamin deficiencies, improve dietary treatment and translate results to other cancer patient populations.

Results/outcomes & expected impact

- **How will the findings be implemented?** With the use of the (inter)national network of our team members in the field of dietary treatment and cancer care we will spread our findings and use the results in developing clinical practice guidelines and book revisions (e.g. Handbook Nutrition and Cancer).
- **How will this project advance patient care / contribute to optimal nutritional care?** The results help to recognize patients at risk for poor vitamin status. Results of a future, larger study will aid to optimize vitamin status for potentially improving recovery after surgery and clinical outcome in patients with HNC.
- **What makes the project innovative?** There is no previous research on vitamin status in newly diagnosed HNC before surgery.
- **Will the project be likely to influence national nutrition policy?** Yes, the researchers are members of national and international professional societies, such as Nutrition & Healthcare Alliance, DDOG, NWHHT, PWHHT that develop and publish guidelines and make scientific insights on nutrition personal and applicable in healthcare.
- **Is the project transferable to other settings / countries?** Yes, expansion of our findings worldwide will assist in refinement of new dietary treatment strategies for oncology patients.



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Incomplete submissions will not be considered.**