

Cancer Care Nutrition Tutorial

Introduction

The following tutorial has been developed by the Dietitian and Nutritionist Clinical Education Network (DANCEN) in 2017 for tertiary students undertaking professional clinical placements with QLD Health services and is based on a tutorial originally created by QLD Health dietitians in Mackay.

- This tutorial can be completed individually or as a group, with supervisor/preceptor direction or independently. It is designed as a learning activity to stimulate thought and further enquiry into nutrition in cancer care.
- Reference to the tutorial answers is suggested after:
 - Attempting to complete the first part of the tutorial from what you already know
 - Clarifying these responses and/or researching the answers by referring to text books, uni notes, best practice guidelines, literature references, other professionals and/or online educational and patient focussed websites.
- Discussion of your responses with your supervisor/preceptor is recommended to ensure you gain the maximum benefit from this activity.

Useful References

Some references that may be useful in completing this tutorial include: (accessed April 2020):

- <http://www.cancerquest.org/cancer-biology-animations.html#> (3D animations explaining cancer at the cellular level)
- <https://www.myvmc.com/cancer-centre/> (3D animations on chemotherapy various cancers, mucositis and explanations of radiotherapy, nutrition and cancer and neutropenia)
- <https://www.cancer.gov/about-cancer> (common types, what is cancer, treatment, coping with cancer, terminology)
- <https://www.cancer.gov/about-cancer/diagnosis-staging/staging> (cancer staging and the TNM classification system)
- ESPEN guidelines on nutrition in cancer patients. Clinical Nutrition 2017
<http://www.espen.info/wp/wordpress/wp-content/uploads/2016/11/ESPEN-cancer-guidelines-2016-final-published.pdf>

- ESPEN expert group recommendations for action against cancer-related malnutrition 2017 <http://www.espen.org/files/ESPEN-Guidelines/PIIS0261561417302285.pdf>
- Evidence based practice guidelines for the nutritional management of adult patients with head and neck cancer <http://wiki.cancer.org.au/australiawiki/index.php?oldid=116710>
- Updated Evidence Based Guidelines for the Nutritional Management of Adults Receiving Radiation Therapy and/or chemotherapy 2013 <http://onlinelibrary.wiley.com/doi/10.1111/1747-0080.12013/pdf>
- A.S.P.E.N. Clinical Guidelines: Nutrition Support Therapy During Adult Anticancer Treatment and in Hematopoietic Cell Transplantation 2009 <https://onlinelibrary.wiley.com/doi/full/10.1177/0148607109341804>
- Nutrition and Cancer, Cancer Council 2019 <https://www.cancer council.com.au/cancer-information/managing-cancer-side-effects/nutrition-%20%20and-cancer/>
- Evidence based practice guidelines for the nutritional management of cancer cachexia 2006 <https://onlinelibrary.wiley.com/doi/pdf/10.1111/j.1747-0080.2006.00099.x>
- Complementary, alternative and integrative therapies during cancer treatment – nutrition related supplements: a clinician’s guide https://www.health.qld.gov.au/_data/assets/pdf_file/0030/149646/oncol-cam-clin.pdf
- Oncology Resource Guide for Dietitians 2015 <https://www.cancervic.org.au/downloads/CISS/Resource-Guide-for-Dietitians.pdf>
- Nutrition Education Materials Online (NEMO) <https://www.health.qld.gov.au/nutrition>
- eviQ <https://www.eviq.org.au/>
- iheard <https://iheard.com.au/>
- Clinical Oncology Society of Australia <https://www.cosa.org.au/groups/nutrition/about>
- Multinational Association of Supportive Care in Cancer <https://www.mascc.org/>
- About Herbs, Botanicals and Other Products <https://www.mskcc.org/cancer-care/diagnosis-treatment/symptom-management/integrative-medicine/herbs>
- The scored patient- generated subjective global assessment (PG-SGA) website <http://pt-global.org/>

Background and Definitions

1) What are the main characteristics of cancer cells? (List at least 3)

-
-
-

2) Match the four subtypes of cancer with their definition:

Choose from:

A. Carcinoma _____

B. Sarcoma _____

C. Leukemia _____

D. Lymphoma _____

1.

An acute or chronic disease characterised by an abnormal increase in the number of white blood cells in the tissues and often in the blood

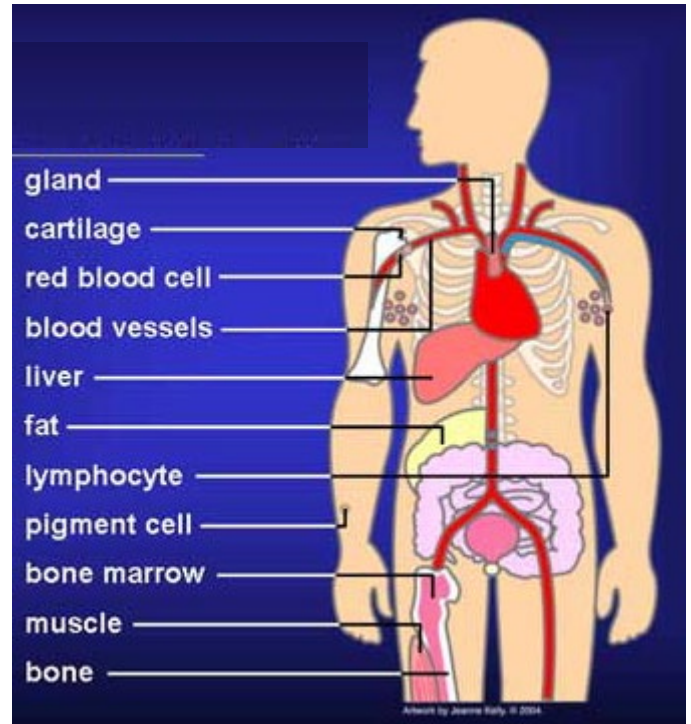
2. A usually malignant tumour of lymphoid tissue

3. A malignant tumour arising in tissue of mesodermal origin (as connective tissue, bone, cartilage, or striated muscle)

4. A malignant tumour of epithelial origin

3) Name the body part that these prefixes refer to by choosing from the list provided:

- Chondro- _____
- Osteo- _____
- Hemangio- _____
- Lympho- _____
- Melano- _____
- Myelo- _____
- Erythro- _____
- Myo- _____
- Lipo- _____
- Adeno- _____
- Hepato- _____



4) a) Define each level of the TNM Cancer staging terminology: (see useful references)

Primary Tumour Size (T)

- TX _____
- T0 _____
- T1,T2,T3,T4 _____

Regional lymph nodes involvement (N)

- NX _____
- N0 _____
- N1,N2,N3 _____

Presence of distant metastasis (M)

- MX _____
- M0 _____
- M1 _____

b) Describe the following cancer stages from the list created above:

- T1N1M0 = _____
- T4N3M1 = _____

Health Professional Roles

5) What are some of the main features of the role of the Dietitian working with oncology patients? (List at least 4)

-
-
-
-

6) List some aspects of roles of other Allied Health Professionals who would likely be involved in a multi-disciplinary cancer care team?

- Social Worker –
- Speech Pathologist –
- Psychologist –
- Occupational Therapist –
- Cancer Care Co-ordinator –
- Physiotherapist-

Nutrition Impact Symptoms

7) Suggest some possible strategies to manage the following nutrition impact symptoms related to cancer treatment?

- Decreased appetite
- Pain with chewing & swallowing
- Nausea & vomiting

- **Diarrhoea & constipation**
- **Dry mouth**

8) Match the following technical terms for symptoms or conditions to their meanings:

Choose from:

- | | |
|-----------------------|---|
| A. Oesophagitis _____ | 1. Low neutrophil blood count |
| B. Mucositis _____ | 2. Dry mouth |
| C. Xerostomia _____ | 3. Inflammation of mucous lining of mouth |
| D. Dysphagia _____ | 4. Inflammation and ulceration of GIT mucous membrane |
| E. Stomatitis _____ | 5. Inflammation of the lining of the oesophagus |
| F. Edentulous _____ | 6. Difficulty swallowing |
| G. Neutropenia _____ | 7. Restricted ability to open the mouth |
| H. Trismus _____ | 8. No teeth |

9) Briefly explain how the following side effects of cancer and treatment may impact on dietary intake. How would you help patients overcome these issues?

- **Taste Changes**
- **Fatigue**

- **Depression**

- **Pain**

10) Which of the following cancers and treatments should be routinely screened for malnutrition?

Cancers of the head and neck

Lymphoma

Cancers of the GI tract

Cancers in the chest area

Leukaemia

Cancers in the pelvic region

Breast cancer

High nutritional risk chemotherapy regimens (Cisplatin, ECF, FOLFIRI)

Combined chemotherapy and radiation

11) What are some of the possible consequences of inadequate nutrient intake for patients undergoing cancer treatment? (List at least 4)

-
-
-
-

Nutritional Management Goals

12) Briefly outline some of the nutritional goals for dietary management when cancer treatment has a curative intent and a palliative intent:

a) Curative intent (List at least 3)

-
-
-

b) Palliative Intent (List at least 3)

-
-
-

Case Study

Briefly outline how you would assess and treat this patient from initial referral to discharge.

MJ is a 64 year old male who has commenced chemotherapy for stage III-B bowel cancer. He has recently had a high anterior resection with a stoma.

MJ reports a current weight of 77kg with a loss of 3 kg in past month, height 1.78m. Usually his weight is stable at 80kg.

No changes in bowel habits reported. He reports feeling fatigued but can manage usual activities. He also reports eating less than usual for 6 weeks due to low appetite and the development of nausea in the past week.

Biochemistry: Protein 53 (NR 60-83), Albumin 28 (NR 35-50), other biochemistry results within normal range.

MJ is married with a supportive wife; he is a retired mechanic but still helps his son in law at his garage most days.

a) What is MJ's current and usual BMI?

b) What % weight has MJ lost?

c) What clinical information do you need to find out for your assessment?

d) What nutrients would you target when completing a diet history and what other factors would you consider?

e) How would you determine nutritional status?

f) In your assessment you note no evidence of muscle or fat store depletion. What is MJ's current nutritional status?

g) What is your nutritional diagnosis?

h) What is your plan?

j) Outline your plans for managing the decrease in appetite (what information would you need to find out and what general advice would you give?).