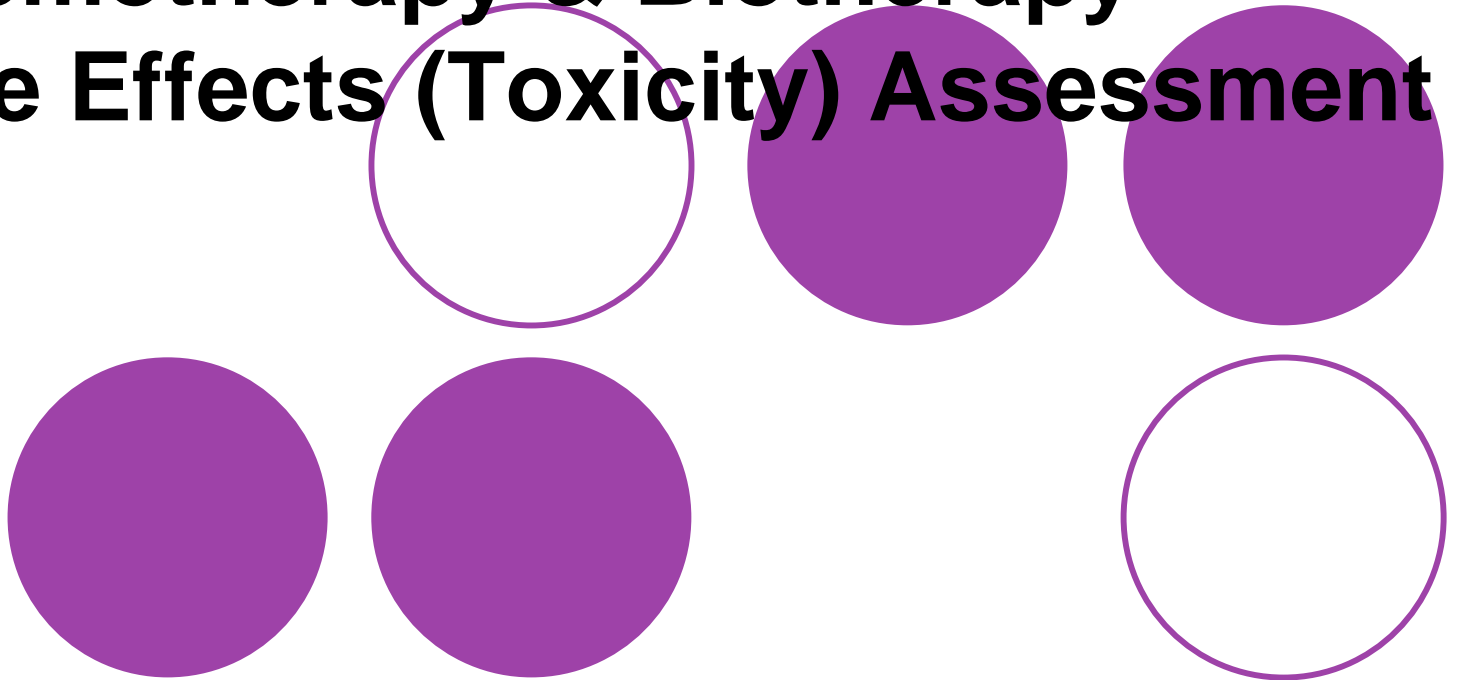


Chemotherapy & Biotherapy Side Effects (Toxicity) Assessment



Learning Objectives

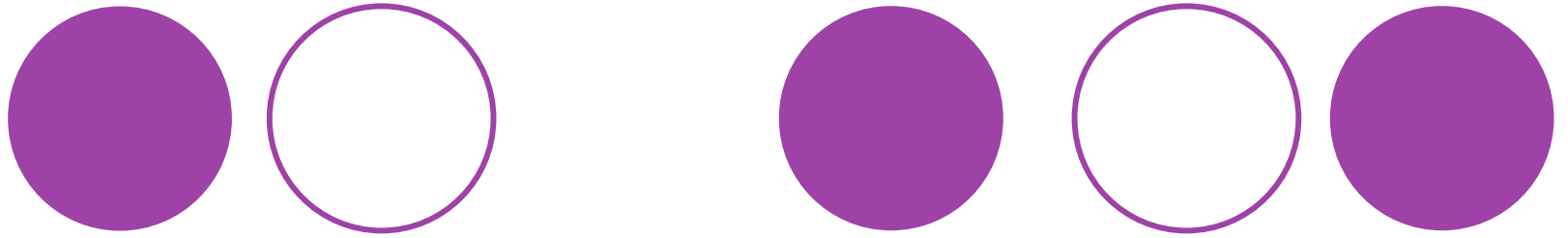


- To understand for oncology patients on treatment:
 - Common Terminology Criteria for Adverse Events (CTCAE)
 - Eastern Cooperative Oncology Group (ECOG) Performance Status (PS)
- To practice assessment in common cancer treatment scenarios



Introduction

- ***Standardized*** tools provide ***standardized*** assessment and documentation of cancer treatment toxicity among professionals
- Information gathered will be used by nurses, physicians, pharmacists and clinical trials to ***objectively:***
 - make decisions regarding the patient's treatment plan
 - provide patient education regarding symptom management
- ECOG is an ***overall view*** of the patient's well-being and the most common general assessment for oncology patients
- Oncology nursing ***clinical practice standards*** recommend their use in assessing patients on chemotherapy and biotherapy



**ECOG
&
KARNOFSKY
PERFORMANCE STATUS**

Why Use It?

A decorative graphic at the top of the slide consists of six purple circles. The first two circles on the left are partially overlapping and contain the text 'Why Use It?'. The remaining four circles are arranged in a horizontal line to the right, with the first and last being solid purple and the middle one being an empty purple outline.

- Most common general assessment for oncology patients
- Gives an overall view of the patient's well-being

How Does ECOG & Karnofsky Differ?



ECOG:

- Is the most common scale used at the cancer centre and KGH
- Uses a numerical scale from 0-4
(0=fully active and 4=completely disabled)

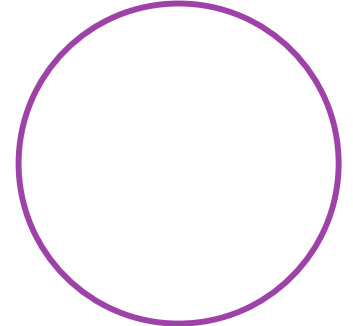
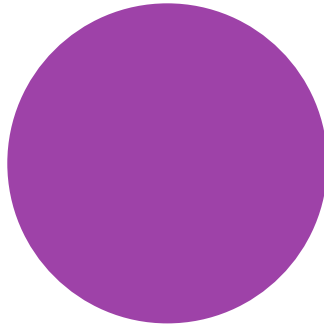
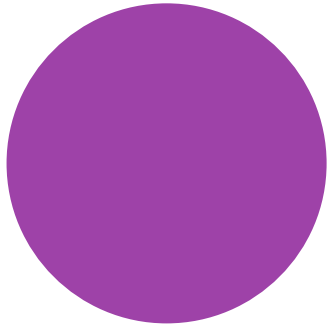
Karnofsky:

- Used in some clinical trials
- Uses a numerical scale if from 0-100
(100=fully active and 0=completely disabled)

Definitions

ECOG	KARNOFSKY	DEFINITION
0	90-100	Fully active, able to carry out all pre-disease performance without restriction.
1	70-80	Restricted in physically strenuous activity but ambulatory and able to carry out work of a light or sedentary nature i.e. light housework.
2	50-60	Ambulatory and capable of all self-care but unable to carry out any work activities. Up and about more than 50% of waking hours.
3	30-40	Capable of only limited self-care; confined to bed or chair more than 50% of waking hours.
4	10-20	Completely disabled. Cannot carry on any self-care. Totally confined to bed or chair.

COMMON TOXICITY CRITERIA SCALE





What Is It?

- An assessment tool developed by the National Cancer Institute (NCI) in an effort to aid clinical staff to standardize toxicity reporting for patients on treatment



When To Assess Toxicity?

- **Prior** to commencing cancer treatment:
 - Documenting symptoms and signs that are cancer-related establishes a **baseline** if toxicities occur while on treatment
- **Day one** of each new cycle of treatment
- When symptoms occur **before** the course of treatment or **change** while on treatment
- Assessments should continue until toxicities have **resolved** post treatment
- Assessment should include the **duration** of the symptom(s)

Review



- A ***symptom*** is what a patient tells us (e.g. I feel tired)
- A ***sign*** is an objective measurement: clinical (e.g. jaundice), radiographical (e.g. low ejection fraction) or laboratory (e.g. low hemoglobin)
- A ***toxicity*** is an unfavorable ***symptom or sign*** associated with chemotherapy (includes biotherapy) or radiotherapy treatment

Toxicity Categories

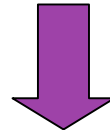


- **Toxicities** can be categorized:
 - Into body systems e.g. gastrointestinal
 - Into other e.g. laboratory tests, infection, pain
- **Categories** are subdivided into:
 - *Symptom & signs* - >grades 1 to 5

Category, Symptom, Grade Example

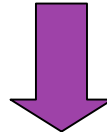
Category

(e.g. body system – gastrointestinal)



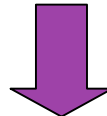
Symptom

(e.g. diarrhea)



Symptom (diarrhea) Grade

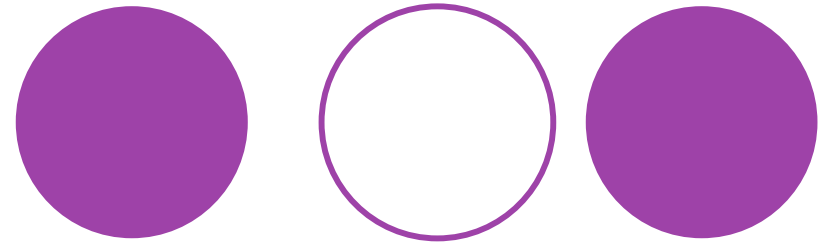
(grades next slide)



Toxicity Definitions & Grades for the Symptom-Diarrhea

Grade 1	Grade 2	Grade 3	Grade 4	Grade 5
Increase of < 4 stools per day over baseline; mild increase in ostomy output compared to baseline.	Increased of 4-6 stools per day over baseline; IV fluids indicated < 24 hrs; moderate increase in ostomy output compared to baseline; not interfering with ADL.	Increase of > 7 stools per day over baseline; incontinence; IV fluids > 24 hrs; hospital severe increase in ostomy output compared to baseline; interfering with ADL.	Life-threatening consequences e.g. hemodynamic collapse.	Death

How To Grade?



- You grade the toxicity as the most severe degree of symptom and/or sign the patient has had between treatment (***since last treatment***)
 - In-depth interviewing may be required to accurately assign a grade
 - E.g. patient with diarrhea; it is necessary to ask the number of stools per day, if they required IV fluids and admission to hospital and whether this is affecting their ability of daily living

Example Of Toxicity Assessment

- Day 1 CMF PO administered
- Day 8 Patient attends clinic for Day 8 of treatment. On assessment the patient stated she vomited 6 times on the 4th day only after her last treatment but feels fine today.
- What is the toxicity category, symptom and symptom grade?
 - **Category** – Gastrointestinal
 - **Symptom** – Vomiting
 - **Symptom Grade** is 3

WHY GRADE 3?

- The patient vomited 6 times on day 4 post treatment – Grade 3 meets the definition found on the grading documentation form.



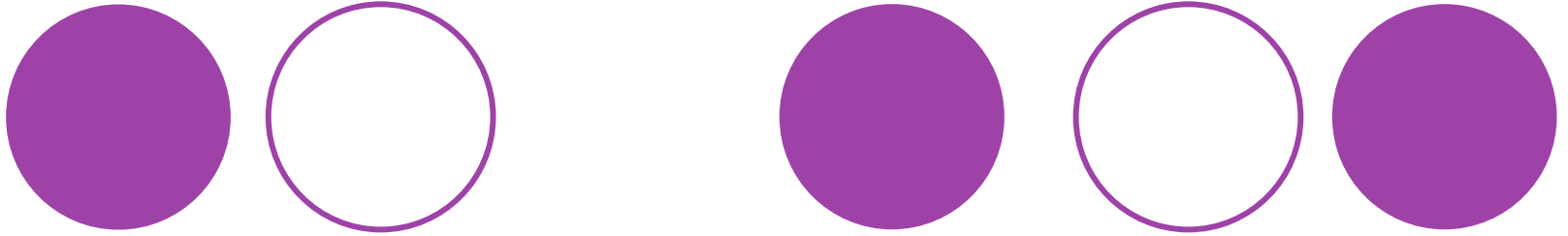
Chemotherapy Toxicities

Drug Class	Individual
anthracyclines – cardiomyopathy	bleomycin – pulmonary fibrosis
antimetabolites – diarrhea, mucositis	capecitabine (Xeloda) – hand – foot syndrome
vinca alkaloids – myelosuppression	vincristine – peripheral neuropathy



What, when and where to document?

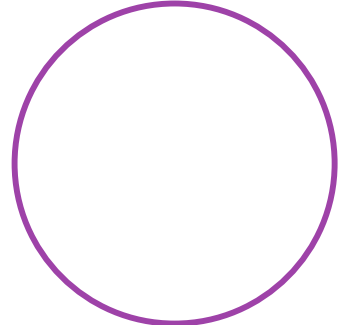
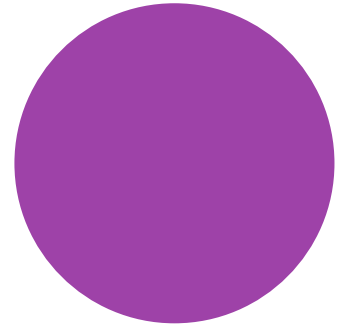
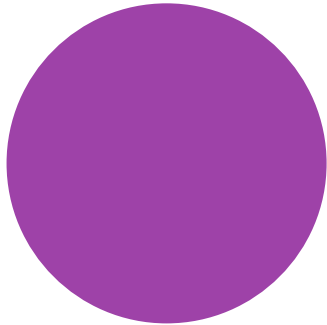
- The documentation form has the **most common toxicities** listed for chemotherapy, biotherapy & radiotherapy
- The nurse documents **toxicities related** to the treatment modality e.g. systemic nurse documents chemotherapy-related toxicities whereas the radiation nurse documents radiotherapy-related toxicities
- **Unrelated** treatment symptoms will also be recorded on the form if the symptom is identified by the nurse or patient e.g. painful calf, swollen arm
- The form has grades 0-5 (Grade 0 is when there are **no clinical** symptoms or signs)
- Recording the **duration** (hours or days) the symptom has occurred is necessary



- If a grade is ***GRADE 3 OR GREATER THAN 3*** detailed documentation is required and a physician notified
- There may be times when a physician or clinical trials associate grades higher for e.g. lab values indicate an abnormal sign such as an increased AST

CASE STUDIES-

**putting theory into
practice**

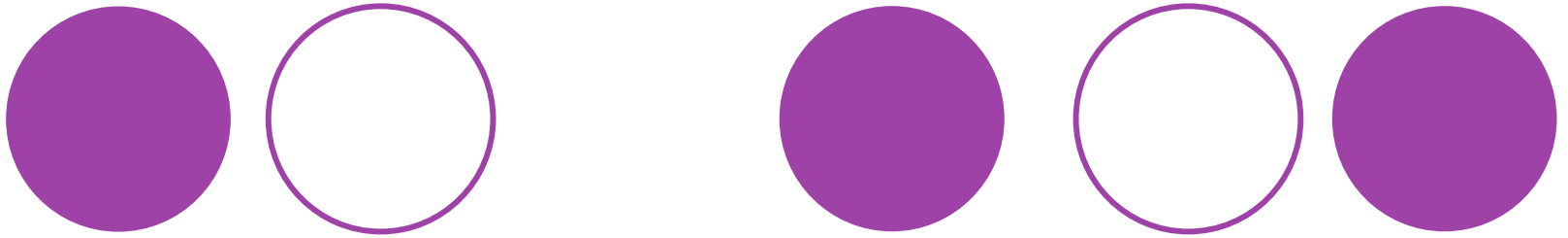




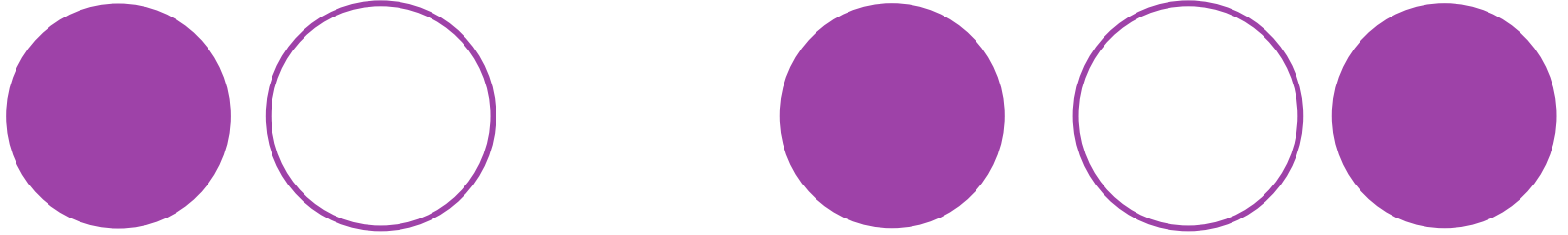
Case Study # 1

- Mrs. C. (79 yrs) is prescribed 5FU/Leucovorin 5 days every 4 weeks x 6 months for adjuvant treatment for colon cancer. She is fully active but unable to do strenuous activity (PS=1), weighs 72.2 kg. (recent 5 kg. wt. loss) and has no baseline cancer related symptoms.
- *At the beginning of Cycle 2* she informed the nurse she had a sore mouth and thrush. She was started on nystatin by her family doctor.
 - *Upon further questioning* Mrs. C. state she was able to eat and drink normally but only small amounts at a time for four days. She is still fully active but unable to do strenuous activity.

What are the toxicity categories, symptoms and symptom grades?

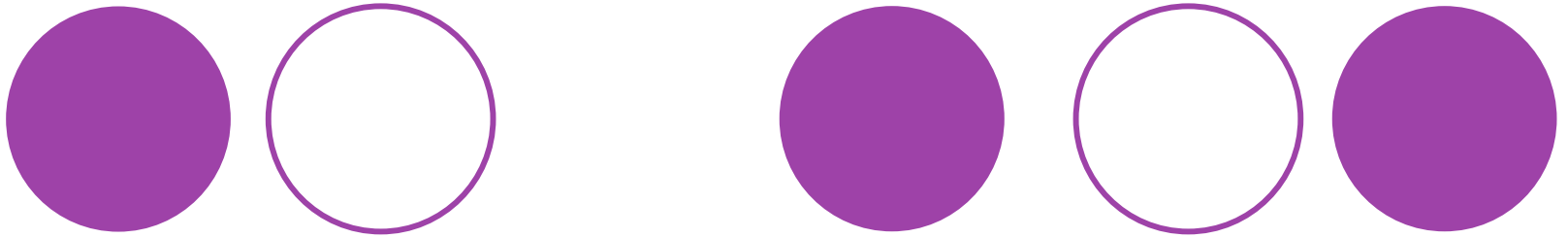


- *Categories* – gastrointestinal and pain
- *Symptom* – mucositis and pain
- *Symptom grades* – are 2 for mucositis and grade 1 for pain
- *Performance Status* = 1



- *At the beginning of Cycle 3* Mrs. C stated she had once again experienced a sore mouth and lips which made it difficult to eat and drink. Her daughter on the weekend took her to the emergency room (ER).
- *Upon further questioning* Mrs. C. stated that in the ER she was given an intravenous and some liquid pain medication. She is now able to eat and drink but takes frequent naps throughout the day and evening.

What are the toxicity categories, symptoms and symptom grades?



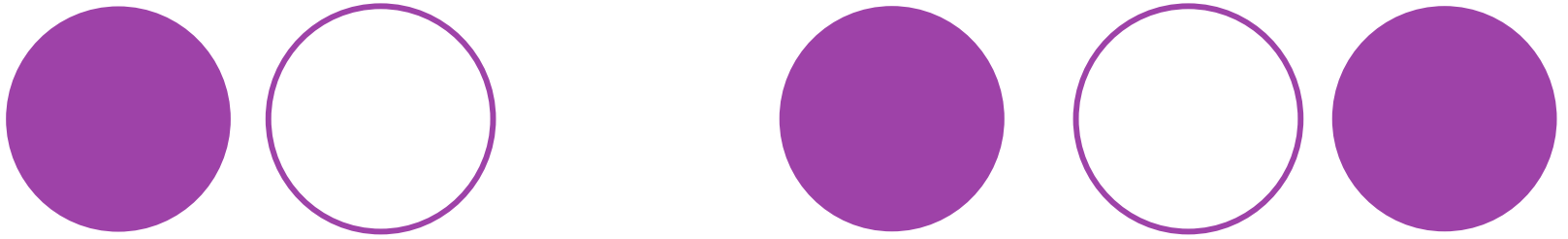
- *Categories* – gastrointestinal and pain
- *Symptom* – mucositis and pain
- *Symptom grades* – are 3 for mucositis and grade 2 for pain
- *Performance Status* = 3

Completed

Case Study # 2

- Mrs. M. (51 yrs) is prescribed EC (Epirubicin Cyclophosphamide) for adjuvant treatment for breast cancer. She is fully active and could carry out all activities without restriction (PS=0), weighs 72.7 kg. and had no baseline toxicities.
- *At the beginning of Cycle 3* she experienced constipation and vomiting for a few days.
 - *Upon further questioning* Mrs. M. stated her constipation was resolved by eating more fruit. She had vomited for ten days and on her worst day she experienced five episodes of vomiting within 24 hours.

What are the toxicity categories, symptoms and symptom grades?



- *Categories* – gastrointestinal
- *Symptom* – constipation and vomiting
- *Symptom Grades* – are 1 for constipation and grade 2 for vomiting
- *Performance Status* = 0

Completed



KEY POINTS

- **CTC** is used for grading treatment related toxicity for patients on cancer treatment and grading is based on the most severe symptom(s)/signs that has occurred *SINCE THE PATIENT'S LAST TREATMENT.*
- **ECOG** gives an overall view of the patient's well-being.

Challenges: Integrating into Practice Many Assessment Scales

- **CTC**—nurse is **objective** when assessing the patient's toxicities (symptoms & signs) as they are related to their cancer treatment.
- **ECOG**—nurse is **objective** when assessing the patient's overall well-being as it is related to their cancer treatment.
- **ESAS**—patient is **subjective** when assessing their nine common cancer related symptoms: pain, tiredness, nausea, depression, anxiety, drowsiness, appetite, well-being and shortness of breath.

Challenge 1: Assessment & Documentation



Example – the nurse objectively grades nausea as **CTC 1** and **ECOG PS* 1**. However the patient assigns herself a 10 for nausea on their ESAS sheet.

- What does the nurse do with the information?
- It would appear that their treatment is being tolerated from a provider perspective however from a patient perspective the nausea may be disconcerting. This patient may be having some underlying issues that the nurse may be unaware of and more in-depth interviewing is required to understand from a patient's perspective


Challenge 2: Documentation & Communicating Information



Example—the nurse has a busy treatment clinic with more than one physician. How and what information is shared with the patient's physician?

- Physicians see one of the support care roles of the nurse is the assessment and management of symptoms
- It is necessary for the nurse to realize their role in the primary nursing model as it relates to symptom management as part of supportive care
- Collaboration is key between the primary nurse and physician
- Therefore it is important to ask what assessment information the physician feels that he or she needs in order to continue to prescribe treatment and what symptoms (toxicities) require medical intervention

Challenge 3– Providing Supportive Care



Providing supportive care interventions is key to managing toxicities related to treatment or the symptoms related to the cancer alone. Therefore it may be necessary for the:

- Primary nurse to arrange to have the patient come back that day or week for further assessment
- Primary nurse may need to ask the chemotherapy/radiotherapy nurse(s) to re-enforce teaching on self-care strategies for self-management of symptoms
- Primary nurse will need to initiate supportive care referrals (discuss and/or informs physician) e.g. social worker, dietitian, community nursing agency (CCAC) etc. for ongoing management of a toxicity or cancer symptom