

# Indus Children Cancer Hospital

Pediatric Oncology Nursing Education Department

TWO-WEEK  
PEDIATRIC HEMATOLOGY/ONCOLOGY COURSE  
FOR REGISTERED NURSES



Prepared by: ArifaKhatoon&RehanaPunjwani

# Indus Children Cancer Hospital

## Mission:

Children Cancer Hospital's mission is to provide quality of education to the nurses based on our strong commitments to practice, best patient care, research, innovation, and collaboration. We also plan to develop an interactive caring process that focuses on the psychosocial, spiritual, and cultural dimensions of our patients and their families. Caring denotes respect, compassion, sensitivity, advocacy, and cultural competence.

## Vision:

Our goal is to be a leading institute among Pakistani academic health centers. We are building our mission to provide holistic patient care, education and research; creating *innovation* in nursing and the delivery of health care; *adapting* our organization to succeed in a changing environment of patient care in a pediatric oncology setting in Pakistan.

## Core Values:

- ❖ Excellence
- ❖ Integrity
- ❖ Caring
- ❖ Diversity
- ❖ Student-centered Learning
- ❖ Professionalism

## Strategic Plan

- ❖ Provide an excellent program to prepare RNs for best practice through a pediatric oncology nursing course
- ❖ Promote scholarship and productivity among nursing faculty and students
- ❖ Create a workplace environment that supports faculty and staff accomplishment of the CCH vision and mission
- ❖ Promote clinical practice to enhance nursing skills

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## **Course Outline:**

Course Title: Pediatric Hematology/Oncology Course for Registered Nurses  
Course Duration: Two weeks  
Hours: Class hours + 50 (total hours to be spent on session/topics 41.5, 3.5 hrs for pre/post test introduction and certificate distribution)

**Course Faculty** MsRehanaPunjvani: Manager Nursing Education /Clinical

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MsArifaHafeez: Manager Infection Control/ Clinical Educator.

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## **Information resources:**

- ❖ Text books, library, Internet.

## **Course Goal:**

At the end of this course student will be able to,

- ❖ Provide high quality Holistic nursing care to children with cancer and their families

## **Course Expectations:**

- ❖ Pre-reading and preparation for class
- ❖ Participation in class discussion
- ❖ Attendance is mandatory for quizzes

## **Evaluation of Student Learning Criteria:**

- ❖ Attendance in Class. 100%
- ❖ Participate in each module test
- ❖ BLS passing marks must obtain 80%
- ❖ Course offered: Twice a year (June & December)
- ❖ Course time 09000-1400hrs

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- ❖ Total hours 50
- ❖ Academic hours 45

## **Eligibility Criteria:**

- ❖ Registered Nurse (must be working in oncology/hematology setting)

## **Topics to be Covered**

- ❖ Common childhood cancers
- ❖ Common pediatric hematological disorders
- ❖ Chemotherapy
- ❖ Infection control
- ❖ Palliative care
- ❖ Nursing skills
- ❖ BLS

### **1. Common childhood cancers, side effects, BMT, laboratory, supportive care (9hrs)**

- ❖ Cancers
  - ALL/AML
  - Lymphoma
  - Solid tumors
  - CNS tumors
- ❖ Side Effects
  - Febrile Neutropenia
  - Oncological Emergencies
  - Septic Shock Management
- ❖ Treatment
  - BMT
  - Radiation therapy
  - Surgery
  - Chemotherapy (to be taught under #3)
- ❖ Laboratory
  - CBC interpretation
- ❖ Supportive Care

### **2.Common hematological disorders(5hrs)**

- ❖ Thalesemia
- ❖ ITP
- ❖ Aplastic Anemia/Anemia's
- ❖ Blood Transfusion
- ❖ Hemophilia

### **3.Chemotherapy(6hrs)**

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- ❖ Principles of prescription of chemotherapy
- ❖ Common cytotoxic drugs
- ❖ Common antibiotics used in oncology
- ❖ Other supportive care drugs
- ❖ Safe handling, administration, and disposal of chemotherapy
- ❖ Extravasations

## **4.Infection Control(8hrs)**

- ❖ Basic microbiology
- ❖ Hand washing
- ❖ Standard precaution
- ❖ Waste management
- ❖ Environmental cleaning /disinfection
- ❖ Isolation precaution
- ❖ NSI(needle stick injury) management
- ❖ Decontamination of instrument

## **5.Palliative Care(5hrs)**

- ❖ Introduction to palliative care
- ❖ Pain management
- ❖ Breaking bad news
- ❖ Counseling techniques
- ❖ Grieving process

## **6.Nursing Role for Procedures, Line Care and Drug Calculation(3hrs)**

- ❖ Bone marrow aspiration/trephine biopsy
- ❖ Intrathecal medication administration
- ❖ CVAD care
- ❖ DRUG CALCULATION

## **7. BLS(4.5)**

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## Learning Objectives for Each Module:

At the end of the course participant will be able to,

### Cancer and treatment modalities

- ❖ Identify the most common type of childhood cancers.
- ❖ Identify various therapeutic modalities used to treat cancer with an emphasis on chemotherapy.
- ❖ Prepare a patient for cancer-related diagnostic tests.
- ❖ Interpret complete blood count (CBC) tests results.
- ❖ Assist in common procedures related to pediatric oncology bone marrow, bone marrow trephine biopsies and intrathecal medications.
- ❖ Develop a pre- and post-treatment teaching plan for the patients and their families.
- ❖ Prepare patients for chemotherapy and radiation therapy.
- ❖ Determine which patients are at risk for oncologic emergencies.
- ❖ Implement measures to prevent oncologic emergencies.
- ❖ Efficiently manage the conditions of patients who are experiencing oncological emergencies.
- ❖ Provide psychosocial support to patients who are experiencing oncology emergencies and the patients' families.
- ❖ Teach patients, caregivers or both to report early symptoms of an oncologic emergency.
- ❖ Appropriately assess patients for signs and symptoms of expected and unexpected side effects of treatment.
- ❖ Implement a plan of care for patients experiencing expected and unexpected side effects of treatment.

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## **Chemotherapy:**

- ❖ Identify selected commonly used agents, and all unique administration issues.
- ❖ Discuss safety precautions necessary when handling cytotoxic agents.
- ❖ Review drug dose calculations and practice examples.
- ❖ Identify nursing procedures and interventions for administering cytotoxic agents.
- ❖ Discuss two immediate complications of cancer therapy, extravasation and hypersensitivity, and the nursing measures required to prevent and/or reduce these complications.
- ❖ Identify selected systemic side effects of cytotoxic agents and the nursing interventions required to manage these side effects.
- ❖ Review specific patient and family education that may prevent and/or reduce the impact of systemic side effects.

## **Pain:**

- ❖ Define pain.
- ❖ Use appropriate tools to measure children's pain.
- ❖ Discuss barriers, myths and misconceptions about pain in children that are prevalent in the local setting.
- ❖ Implement pharmacologic and non-pharmacologic ways to manage various potential side effects of pharmacologic agents used to treat pain in children with cancer.
- ❖ Identify alternative and complementary therapies most commonly used by patients and families to manage pain in the local setting.

## **Central lines:**

- ❖ Identify commonly used central venous access devices.
- ❖ Demonstrate correct line care.
- ❖ Provide a teaching plan for the patient and family for home management of the venous access site and possible side effects of treatment.

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## **Palliative care/End Of Life Care:**

- ❖ Explain the concept of palliative care.
- ❖ Use palliative care concepts to provide dignified end-of-life care.
- ❖ Advocate for the patient and family through active participation in the palliative care team.
- ❖ Manage symptoms common during end-of-life.
- ❖ Provide a culturally responsive end-of-life care to patients and their families.
- ❖ Psychosocially support patient and family as they transition into palliative care and inevitable loss.

## **Infection control:**

- ❖ Demonstrate an understanding of basic microbiology.
- ❖ Demonstrate an understanding of how micro-organisms are spread.
- ❖ Demonstrate an understanding of standard infection control precautions.
- ❖ Demonstrate an understanding of the importance of correct hand hygiene technique.
- ❖ Describe Methicillin-resistant Staphylococcus aureus (MRSA) and demonstrate an understanding of its impact in healthcare, particularly for children with cancer.
- ❖ Demonstrate an understanding of precautions that are necessary to prevent and control Health Care Associated Infections (HCAI).

## **Basic life Support:**

- ❖ Demonstrate an understanding of and define the term 'Basic Life Support'.
- ❖ Demonstrate an understanding of the potential risks involved in a resuscitation attempt.
- ❖ Demonstrate an understanding of how to recognize a victim who has collapsed and is in need of assistance and carry out a standard assessment of the victim.
- ❖ Describe how to perform BLS on an adult.
- ❖ Outline the modifications that may be required in technique when resuscitating an infant or child.



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- ❖ Describe the sequence of steps involved in treating an adult child and infant who is choking.
- ❖ Describe how to safely place a victim into the correct recovery position.

## **Communication Skills:**

- ❖ Demonstrate an understanding of the importance of communication.
- ❖ Define therapeutic communication.
- ❖ Define grieving process.
- ❖ Identify proper techniques required for counseling and breaking bad news.
- ❖ Demonstrate an understanding of importance of establishing an empathetic relationship with patients and their families

## **Leukemias:**

By the end of the session the student will be able to,

- ❖ Define acute lymphoblastic leukemia (ALL)
- ❖ Define acute myeloid leukemia (AML)
- ❖ Describe the signs & symptoms of ALL & AML
- ❖ Identify treatment protocols commonly used for ALL & AML

*Presentation includes*

- ❖ Definition
- ❖ Clinical presentation /symptoms
- ❖ Applicable diagnostic test and results, risk group designation
- ❖ Treatment including current protocols

## **Lymphoma**

By the end of the session student will be able to,

- ❖ Define Hodgkin's Disease (HD)
- ❖ Define Non-Hodgkin's Lymphoma (NHL)
- ❖ Describe signs & symptoms of HD & NHL
- ❖ Identify treatment protocols commonly used for HD & NHL

*Presentation includes*

- ❖ Definition
- ❖ Clinical presentation /symptoms

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- ❖ Applicable diagnostic test and results, risk group designation
- ❖ Treatment including current protocols

## **Solid tumors:**

Define solid tumors

- ❖ Neuroblastoma
- ❖ Retinoblastoma
- ❖ Osteosarcoma
- ❖ Ewing's sarcoma
- ❖ Renal tumors
- ❖ Rhabdomyosarcoma
- ❖ Hepatic tumors
- ❖ Recognize signs & symptoms of common solid tumors Identify treatment protocols commonly used.

*Presentation includes*

- ❖ Definition
- ❖ Clinical presentation /symptoms
- ❖ Applicable diagnostic test and results, risk group designation
- ❖ Treatment including current protocols.

## **Febrile neutropenia:**

By the end of the session students will be able to,

- ❖ Define febrile neutropenia
- ❖ Identify risk factors for febrile neutropenia (FN)
- ❖ Describe signs and symptoms of febrile neutropenia
- ❖ Enlist at least five care priorities for FN
- ❖ Identify treatment algorithm of FN
- ❖ Define absolute neutrophil count (ANC)
- ❖ Demonstrate how to calculate an ANC

## **Septic Shock:**

- ❖ Define septic shock

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- ❖ Identify risk factors for septic shock
- ❖ Enlist at least five care priorities for septic shock
- ❖ Identify treatment protocol for septic shock

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## Teaching Schedule

### CHILDREN CANCER HOSPITAL PEDIATRIC HEMATOLOGY /ONCOLOGY COURSE FOR RN

Days	0900-0930	0930-1030	1030-1100	1100-1200	1200-1300	1300-1400
	Introduction of CCH Mission & Vision	<b>MODULE 1</b>				
Monday		CBC interpretation	TEA BREAK	Leukemia and Lymphoma	Solid tumors	Supportive care
Tuesday	TEST	BMT		Febriile neutropenia	Radiation therapy	Septic shock & oncological emergencies
Wednesday	TEST	Chemotherapy safe handling and administration	BREAK	Common cytotoxic drugs		Supportive drugs
<b>Module 3</b>						
Thursday	TEST	Thalassemia	BREAK	ITP/blood transfusion	Anemia	Hemophilia
<b>MODULE 4</b>						
Friday	TEST	Basic Life Support				
<b>MODULE 5</b>						
Monday	TEST	Procedures	BREAK	CVAD	Drug calculation	PFE & nutrition
<b>MODULE 6</b>						
Tuesday	TEST	Hand Hygiene	TEA BREAK	Standard precaution	Common Mistakes	Environment Cleaning
Wednesday	TEST	Isolation precaution		NSI management	Decontamination of instruments	Audit /surveillance
<b>MODULE 7</b>						
Thursday	TEST	Introduction to palliative care	TEA BREAK	Counseling Techniques	Grieving	Pain management
Friday	TEST	Course Evaluation		Certificate Distribution		Namaz Break

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## Tests(sample)

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Children Cancer Hospital  
Pediatric Hematology & Oncology Training course  
Test

Name: \_\_\_\_\_

Total Marks: \_\_\_\_\_

Date: \_\_\_\_\_

Marks Obtained: \_\_\_\_\_

Q.No 1. Cancer is diagnosed by

- a. Cannot diagnosis
- b. Bone marrow, blood test, scan
- c. Biopsy
- d. b& c

QNO 2. Seven days after his chemotherapy for Wilms tumor, 2-year-old Javaid has a Total Leucocytes Count of 0.2. The nurse knows that a priority in educating Javaid's parents about his condition and treatment is

- a. To teach them the early signs and symptoms of infection.
- b. To remind them that Javaid is okay as long as he does not develop fever.
- c. To tell them that Javaid can go to daycare if he wears his protective mask.
- d. Increase Javaid's vitamin C intake by giving him raw fruits and vegetables.

QNO 3. Retinoblastoma is cancer of the eye and it originates in the retina. Which of the following is false?

- a. It is not hereditary.
- b. It begins to form during fetal development.
- c. It's the third most common form of childhood cancer.
- d. If detected early, more than 90 percent of cases can be cured.

QNO 4. Which body organ can develop ahepatoma cancer?

- a. Stomach
- b. Liver

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- c. Kidney
- d. Brain

QNO 5. What is the most common form of pediatric cancer?

- a. Brain tumors
- b. Leukemias
- c. Lymphomas
- d. Neuroblastoma
- e. Retinoblastoma

QNO 6. Osteosarcoma is cancer that starts in the bone. Which of the following statements is false?

- a. It is the most common bone cancer in children
- b. It is more common in girls.
- c. It is seen most often in teenagers.
- d. Eighty percent of cases affect bones around the knee.

QNO 7. Where do Wilm's tumors originate?

- a. Brain
- b. Kidney
- c. Adrenal gland
- d. Thyroid

QNO 8. Fifteen-year-old Maryum experiences severe nausea and vomiting an hour before her scheduled chemotherapy. This chemotherapy-induced nausea and vomiting is known as

- a. Acute emesis
- b. Chronic nausea and vomiting
- c. Anticipatory nausea and vomiting
- d. Pre-therapy syndrome

QNO 9. Which of the following blood component fights infection?

- a. RBC
- b. WBC
- c. Platelets
- d. None of the above

QNO 10. Which of the following types of blood cells is affected by leukemia?

- a. Platelets

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- b. WBC
- c. RBC
- d. Whole blood

QNO 11. Which one of the following treatment option is the most common for leukemia patients?

- a. Chemotherapy
- b. Radiation therapy
- c. Bone marrow transplant
- d. Surgery

QNO 12. Which of the following is a symptom of leukemia?

- a. Anemia
- b. Easy bruising/ bleeding
- c. Frequent infections
- d. All of the above

QNO 13. Acute lymphocytic leukemia (ALL) is more likely to occur in teens ages 14 to 16.

- A. True
- B. False

QNO 14. One possible symptom of acute leukemia is bruising or bleeding easily.

- A. True
- B. False

QNO 15. A person with leukemia produces abnormal blood cells - usually white blood cells - that over time crowd out normal white and red blood cells, and platelets.

- A. True
- B. False

QNO16. Define Blood Components and theirfunction.

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QNO17: Write at least FIVE (5) supportive care nursing practices for children with cancer.

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Children Cancer Hospital  
Pediatric Hematology & Oncology Training course  
Test

Name: \_\_\_\_\_

Total Marks: \_\_\_\_\_

Date: \_\_\_\_\_

Marks Obtained: \_\_\_\_\_

QNO 1. The nurse is teaching a group of patient care attendants about infection control measures. The nurse tells the group that the first line of intervention for preventing the spread of infection is.

- 1- Wearing Gloves
- 2- Administering Antibiotics
- 3- Washing Hands
- 4- Assigning private room for a client

QNO 2. When changing a sterile surgical dressing the nurse first must

- 1- Wash their hands
- 2- Apply sterile gloves
- 3- Remove the old dressing with clean gloves
- 4- Open sterile packages and moisten the dressing with sterile saline solution

QNO 3. Standard precautions were designed for the care of all clients in hospitals, regardless of their diagnosis or infection status. Guidelines for standard precaution include

- 1- Immediately recapping used needles
- 2- Disposing of sharp instruments in an impervious container
- 3- Wearing gloves only for sterile procedures
- 4- Using eyeglasses for eye protection

QNO 4. PPE means \_\_\_\_\_.

QNO 5. Precautions used with all patients to prevent spread of infectious diseases are called \_\_\_\_\_.

QNO6. All personnel are responsible for complying with standard precautions.

\*True

\*False

QNO 7. It is acceptable to wait for confirmation of a communicable disease diagnosis before implementing isolation precautions.

\*True

\*False

QNO 8. Alcohol-based hand rubs can effectively be used

- When hand are not visibly soiled
- To increase mechanical friction of plain soap

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- In the absence of running water
- All of the above

QNO 9. When washing your hands, areas between fingers and under nails require special attention.

\*True

\*False

QNO 10. Standard Precautions means treating the blood and body fluids of all patients as if they are infectious with HIV or Hepatitis.

\*True

\*False

QNO 11. Personal protective equipment includes:

- a. Gloves, gowns, masks, goggles
- b. Aprons, booties, gloves
- c. Eye shields, aprons, masks
- d. All of the above

QNO 12. Gloves are to be worn when contact with blood, body fluids, non-intact skin, mucous membranes, or contaminated surfaces are anticipated.

\*True

\*False

QNO 13. Standard precautions are used with every patient, no matter the reason they are being seen.

\*True

\*False

QNO 14. When should you clean your hands?

- a. When entering or leaving patient's room
- b. After performing care
- c. Before contacting new patient
- d. All of the above

QNO 15. Hands should be washed before and after putting on gloves.

\*True \*False

QNO 16. 26. You do not need to wash hands after blowing or wiping your nose since viruses are airborne.

\*True\*False

QNO 17. You should not visit patients in a hospital if you have:

- a. Fever
- b. Sore throat – runny nose
- c. Cough, shortness of breath
- d. Nausea, vomiting or diarrhea
- e. Diabetes

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QNO 18. To protect yourself from most communicable diseases you should wash your hands:

- a. After changing diapers
- b. After using the bathroom
- c. Before eating
- d. Before preparing food

QNO 19. All of the following are part of standard precautions, **EXCEPT**,

- a. Proper reprocessing of instruments
- b. Good design and maintenance of the facility
- c. Personal protective wear
- d. Handling and disposal of sharps
- e. Wearing a respirator

QNO 20. The objective of standard precautions is to prevent the spread of infection within the health care institution:

- a. From patient to patient
- b. From patient to staff
- c. From staff to patient
- d. From staff to staff
- e. All of the above

QNO 21. The following statement is true about effective hand washing except:

- a. Keep elbows lower than hand when washing and rinsing
- b. Use friction to clean between fingers, palms, nail beds, back of hands and wrists
- c. Wash for 30 seconds or longer using an alcohol-based hand rinse
- d. Use a paper towel to turn off the light switch

QNO 22. Uniforms should be worn directly to work and directly home with no wayside stops.

\*True

\*False

QNO 23. Alcohol-based hand rinse **SHOULD NOT** be used:

- a. Prior to patient contact
- b. If fingernails are chipped
- c. If the patient has a respiratory infection
- d. If hands are visibly dirty

QNO 24. Bacteria and viruses can spread by way of:

- a. Water, food, drinks, and eating utensils
- b. Direct contact with people and/or body substances
- c. Coughing, sneezing, or vomiting
- d. Equipment such as telephones, keyboards, or glucometers
- e. All of the above

QNO 25. In a hospital, routine precautions are the responsibility of doctors and nurses **only**

\*True

\*False