


Your Treatment Journey

# CANCER CARE NORTHWEST CHEMOTHERAPY CLASS



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### WHAT IS CHEMOTHERAPY & IMMUNOTHERAPY?

- Chemotherapy & Immunotherapy are both treatments that fight cancer. While they may seem alike, they work in different ways.
- Immunotherapy helps your immune system fight cancer.
- Chemotherapy attacks the cancer cells directly.

NIH – National Cancer Institute Website: [www.cancer.gov](http://www.cancer.gov)



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- THERE ARE HUNDREDS OF DRUGS  
More drugs in clinical research trial pipeline (esp. targeted / immunotherapies)
- YOUR SPECIFIC TREATMENT DEPENDS ON
  - TYPE OF CANCER
  - LOCATION OF CANCER
  - EXTENT OF DISEASE
  - GENERAL HEALTH

### CHEMOTHERAPY & IMMUNOTHERAPY



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**HOW DOES CHEMOTHERAPY WORK?**

- **NORMAL CELLS** – grow and die in a controlled way
- **CANCER CELLS** – divide and form more cells without controls seen in normal cells
- **CHEMOTHERAPY** – stops cancer cells from growing or multiplying
- **HEALTHY CELLS** – can be harmed, leads to side effects



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**WHAT IS THE GOAL OF CHEMOTHERAPY?**

**CURE**

**CONTROL**

**PROYPHYLAXIS** – measures designed to preserve health and prevent the spread of cancer

**PALLIATION** – to relieve symptoms of cancer without curing the disease.



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**HOW IS CHEMOTHERAPY GIVEN?**

Mostly it is:

- **INTRA-VENOUS** – inside the vein

But it can be:

- **ORAL** – taken by mouth
- **INTRA-MUSCULAR** – injection in muscle
- **INTRA-ARTERIAL** – inside artery
- **INTRA-CAVITARY** – inside body cavity (e.g. intraperitoneal – inside area containing abdominal organs)
- **INTRA-LESIONAL** – inside the tumor
- **SUBCUTANEOUS** – just under the skin
- **TOPICAL** – onto the surface of affected area



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**HOW LONG WILL TREATMENT LAST?**

DEPENDS ON:

- Type of and extent of cancer
- Goal of treatment
- Which drugs are used
- How body responds to treatment



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**CAN I TAKE OTHER MEDICATIONS DURING TREATMENT?**

**01**


Other drugs CAN interfere with chemo SO...

**02**

TELL US about ALL drugs, prescription and non-prescription EVERY TIME you visit the office. KEEP A CURRENT LIST WITH YOU.

**03**

INCLUDE: all herbal meds, complementary, and non-medical treatments. Grapefruit juice can interact with many medications. Good idea to avoid.



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**OVERVIEW OF COMMON SIDE EFFECTS**

- Bone Marrow Suppression ▲ = decreased WBCs (white blood cells), RBCs (red blood cells) and platelets
- Nausea & Vomiting
- **Fatigue**
- Sores & inflammation in Mouth & Throat ▲
- Kidney and Bladder Irritation
- Hair loss ▲
- Dry skin ▲ & mottling; nail changes
- Numbness & tingling
- Sexuality & Fertility changes ▲
- Temporary forgetfulness "chemo brain"

▲ = fast growing normal cells that are affected by chemotherapy drugs



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**SIDE EFFECTS OF CHEMO**

**KEEP IN MIND THAT...**

- > NOT ALL CHEMO DRUGS CAUSE ALL SIDE EFFECTS
- > NOT ALL PATIENTS EXPERIENCE SIDE EFFECTS



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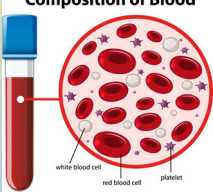
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**AFFECT ON BLOOD CELLS**

**Composition of Blood**




WHITE BLOOD CELLS FIGHT BACTERIAL & VIRAL INFECTIONS

RED BLOOD CELLS CARRY OXYGEN TO YOUR TISSUES

PLATELETS HELP FORM BLOOD CLOTS

- ALL THE ABOVE ARE FAST GROWING CELLS.
- CANCER CELLS ARE ALSO FAST GROWING.
- MOST CHEMOTHERAPY DRUGS TARGET FAST GROWING CELLS.
- YOUR ONCOLOGIST CLOSELY MONITORS THE AFFECT OF CHEMO ON YOUR CANCER, YOUR BLOOD CELLS & YOUR HEALTH.



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**CALL US (509-228-1000) WHEN YOU EXPERIENCE:**

**Fever  $\geq$  100.4F CALL!! - DAY OR NIGHT!**  
*You need to have a thermometer.*

**Chills - CALL DAY OR NIGHT FOR SHAKING CHILLS!**

- Pain, redness, swelling of central line port or peripheral IV access site.
- Sweating
- Diarrhea
- Burning on urination
- Severe cough, sore throat, short of breath
- Abdominal pain
- New vaginal discharge

**SIGNS AND SYMPTOMS OF INFECTION**

A REALLY BIG CONCERN IS IF YOUR WHITE BLOOD CELLS ARE LOW.




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• **WASH HANDS FREQUENTLY!**  
**(This is the most important prevention)**

- Clean cuts immediately
- Stay away from:
  - People who are ill
  - Crowds
  - Recently immunized children
- **NO immunizations** (without consulting your oncologist)
- **Avoid:**
  - Animal litter boxes, bird cages, reptiles, fish tanks, gardening (esp. if white blood cells are low).



infection control

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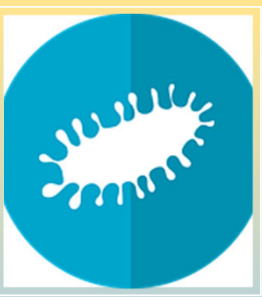
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**MANAGEMENT OF INFECTION OR LOW WBC COUNTS (NEUTROPENIA)**

- Antibiotics for infection
- Use of white blood cell growth boosters
  - Neupogen®, Neulasta®, Granix®, Zarxio®
- Reduce chemotherapy dose
  - Decreases stress on bone marrow production of WBCs
- Postpone chemotherapy
  - Until WBC counts are increased

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**SAFE FOOD HANDLING**

- **WHEN GROCERY SHOPPING**
  - Check "sell by" & "use by" dates
  - Avoid foods from self-serve bulk containers or bins
  - Pasteurized dairy and juice and honey only
- **AT HOME**
  - Meats should reach proper internal temperatures (meats 165°F / poultry 180°F)
  - Wash fruits and vegetables
- **WHEN DINING OUT**
  - Avoid salad bars, delicatessens, buffets, and potlucks
  - Avoid sushi (not cooked)



SAFETY FIRST

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**SIGNS & SYMPTOMS OF LOW RBC COUNT (ANEMIA)**

- Fatigue – the most common
- Dizziness
- Paleness
- Tendency to feel cold
- Shortness of breath
- Headache
- Irregular heart rate

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**MANAGEMENT OF ANEMIA**

- REST – take naps; limit activities (prioritize); accept help; change positions slowly.
- Balanced nutrient dense diet: protein, complex carbohydrates, adequate fluids and calories, nutrient rich supplement drinks (like Boost, Breeze & Ensure).
- Transfusions

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**DECREASED PLATELETS (THROMBOCYTOPENIA)**

PLATELETS HELP CLOT THE BLOOD SO DECREASED PLATELETS = INCREASED RISK OF BLEEDING

- Bleed/bruise easily
- Small red or purplish-blue spots under the skin
- Reddish/pinkish urine
- Black or bloody bowel movements
- Bleeding from gums or nose
- New vaginal bleeding
- Dizziness
- Severe headaches or vision changes
- Increase in weakness

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**PREVENTING DECREASED PLATELETS & BLEEDING**

- No aspirin, ibuprofen or other anti-platelet medications (unless oncologist directs)
- Avoid cuts
- Avoid contact sports
- Careful with oral care and nose blowing
- Use
  - Extra SOFT toothbrush
  - Electric razor



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**LAB BLOOD DRAWS**



- Patients who are receiving chemo or immunotherapy will need to have blood work completed prior to or on the same day as their office visit
- The lab crew of med techs & phlebotomists are NOT licensed to draw blood from patients' ports, PICC lines, or pheresis catheters.



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**VENOUS THROMBOEMBOLISM**  
BLOOD CLOT IN A BLOOD VESSEL.  
*REPORT WITHOUT DELAY*

- DVT (Deep Vein Thrombosis)
  - Swelling of one extremity
  - Edema (pitting)
  - Pain in leg esp. when weight bearing, relieved at rest and elevation
- PE (Pulmonary Embolism – Lung)
  - Possible chest pain while breathing
  - Shortness of breath or difficulty breathing, rapid breathing (24 breaths/min or greater)
  - Cough (may produce pink bloody sputum)
  - Possible slight fever



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SO... THE ONCOLOGIST FREQUENTLY MONITORS YOUR CBC (COMPLETE BLOOD COUNT) TO WATCH FOR:

Low	VERY low white blood cells = reduced ability to fight infection (neutropenia)
Low	VERY low red blood cells starves tissues of oxygen (anemia)
Low	VERY low platelet cells = increased risk of bleeding (thrombocytopenia)



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NAUSEA & VOMITING

- Most dreaded
- PREMEDS developed specifically for patients receiving chemotherapy are given before those chemotherapy regimens that are known to cause nausea.
- The choices of anti-nausea drugs depend on type of chemo drugs and treatment course.
- Symptoms usually start a few hours after treatment and last a short time – can be delayed.

 Use "as needed" anti-NAUSEA MEDS prescribed for you to have on hand at home at the **first inkling** of nausea.

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MANAGEMENT OF NAUSEA & VOMITING

- Consider trying
  - Dry cereal, toast or crackers before getting up in the morning
  - Ice chips
  - Clear liquids (broth, water, ginger ale, tea)
  - Eat small, frequent meals throughout the day

AND...

 USE ANTI-NAUSEA MED AT 'FIRST INKLING'

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**MANAGEMENT OF NAUSEA & VOMITING**

**AVOID**

- Lying flat for at least 2 hours after a meal
- Greasy or fried foods
- Overly sweet foods

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**PREVENTION OF MOUTH SORES**  
MUCOSITIS/STOMATITIS

- Before starting chemo, visit your dentist; light not deep cleanings
- Use an extra soft toothbrush after each meal
- Avoid commercial mouthwashes (many contain alcohol, which is harsh)

**USE: 1 TSP SALT + 1 TSP SODA IN ONE QUART OF WATER**

Keep a water bottle of the above fresh solution by your sinks in order to rinse and spit after meals and before bed or more often.

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**MANAGEMENT OF MOUTH SORES**

- Eat cooler temperature, softer foods (banana, scrambled eggs, etc.)
- Drink plenty of liquids
- Avoid irritating, acidic or coarse dry foods (chips, pickles, crackers)
- During Daily Oral Care - ✓ oral tissue with flashlight
- Call for medication if you develop white patches or lesions

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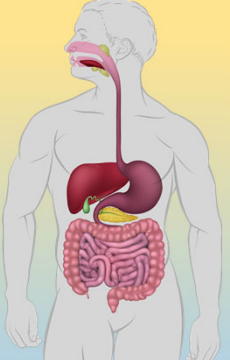
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### MANAGEMENT OF DIARRHEA (WATERY STOOLS)

- REST THE GI TRACT!!!
- Use Imodium® per package directions.
- Avoid food/drink that can aggravate our GI tract:
  - High fiber foods
  - Caffeinated beverages
  - Alcohol chocolate & sweets
  - Fried, greasy or spicy foods
  - Milk and dairy products
  - Hot liquids
- Remember to:
  - Take care of skin around rectum
  - Call if fluid loss is greater than fluid consumption

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### MANAGEMENT OF DIARRHEA CONT.

DO:

- Drink plenty of non-caffeinated fluid (64 oz = eight 8 oz glasses/day)
- Eat small, more frequent meals starting with BRAT diet (after resting the GI tract)
- Eat foods low in fiber
- Eat potassium rich foods
- Use Imodium® per package directions
- **CALL** if 3 or more diarrhea stools/day even with use of Imodium®

**BRAT DIET**

**BANANAS**

**RICE**

**APPLESAUCE/APPLE JUICE**

**TOAST/TEA**

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**DRINKING WATER IS VERY IMPORTANT DURING TX**

Mild to moderate dehydration is likely to:

- Increase nausea
- Aggravate mucositis/stomatitis
- Cause decreased urine output –

Clear or light-colored urine means you're well hydrated, whereas a dark yellow or amber color usually signals dehydration. So when you see your urine is dark – drink more water!

- Cause headache
- Aggravate or cause constipation
- Aggravate or cause dizziness or lightheadedness

**WATER IS YOUR FRIEND!**

It flushes the chemo through your body and keeps your body working right!

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**BLADDER & KIDNEY IRRITATION**

- Change in color of urine
- Strong or medicine-like odor of urine
- Pain or burning upon urination
- Frequent urination
- Feeling of urgency
- Incontinence
- Fever/Chills (need to rule out UTI – urinary tract infection)

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- Pace Yourself
- Rest: Take naps and breaks
- Short walks or light exercise
- Get up slowly
- Get help with tasks
- Well-balanced diet
- Contributing factors
- **Conserve energy for prioritized activities**
- Some try meditation, prayer, yoga, guided imagery, visualization

**MANAGEMENT OF FATIGUE**

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**ALOPECIA MEANS "HAIR LOSS"**

- Chemo damages hair follicle and hair breaks off at scalp – but not all chemotherapy drugs cause hair loss
- Hair loss can begin after a few treatments (about 3 weeks)
- Hair grows back – may be different texture or color. Rate of growth about 1/2 inch per month
- Loss of hair can be anywhere on the body.

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**HAIR & SCALP CARE**



-  You may want to cut hair short
-  If hair becomes dry/brittle
  - Mild shampoo w/ built-in conditioner
  - Soft hairbrushes
  - Low heat when using hairdryer
-  Avoid
  - Sun (use sunscreen, hat, scarf)
  - Dye, perms or relaxing hair
-  Consider
  - Purchase of wig before hair is gone
  - Insurance may cover purchase of wig

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**SKIN CHANGES**

Most skin problems are not serious (dry skin = moisturize, avoid too hot water for bath/shower)

**PROTECT FROM SUN! (Sunscreen)**

Nails may become darkened; brittle, cracked or develop vertical lines or bands and become fragile. Use moisturizer to protect them and keep them clean and trimmed. Do NOT use artificial nails or gel polish during chemotherapy to prevent infection and permanently damaging your nails.

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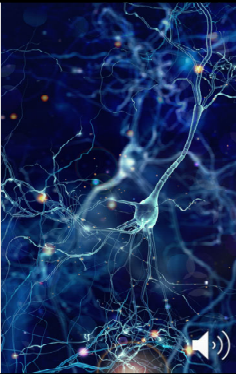
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**PERIPHERAL NEUROPATHY**

- Certain drugs can irritate nerves anywhere in the body.
- Most frequently causes *tingling, burning sensations or numbness in hands & feet*, cold sensitivity, or can make muscles weak, tired and sore.



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### PERIPHERAL NEUROPATHY



- **Signs & Symptoms**
  - Loss of balance
  - Clumsiness
  - Difficulty picking up objects and buttoning
  - Walking problems
  - Jaw pain
  - Tingling in ears or hearing loss
  - Stomach pain
  - Constipation
  - Hiccups
- Usually temporary
- Avoid tight fitting clothes, socks, shoes, gloves

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SEXUAL  
FUNCTION  
&  
FERTILITY

Side Effects for men and women depend on:

- Chemo agent used
- Dosage given
- Age
- General health

• PLEASE TALK TO YOUR DOCTOR ABOUT ANY CONCERNS YOU HAVE.





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FERTILITY  
ISSUES


(DISCUSS WITH  
ONCOLOGIST  
BEFORE STARTING  
TREATMENT)

**For Fertility Issues, Egg/Sperm Banking:**

**NW Andrology & Cryobank**  
 201 W. North River Dr.  
 Suite 110  
 Spokane, WA 99201  
 509-232-0132

FAX: 1-509-232-0415  
 E-MAIL: [info@nwcryobank.com](mailto:info@nwcryobank.com)  
[www.nwcryobank.com](http://www.nwcryobank.com)

OTHER: [www.fertilehope.org](http://www.fertilehope.org)



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**WHEN MEETING WITH YOUR ONCOLOGIST:**

- Use a spiral notebook to:
  - Write your ?s as they occur.
  - Keep track of your side effects & symptoms. What makes them worse/better?
  - Request any needed drug refills during office visit. (Any calls for pain refills, allow 24 hours).
  - Call your pharmacy for other refill requests.
  - Please know that any prescriptions from other doctors should be refilled by them.
- Take a relative or friend to office visit.
- Bring copies of test results from other offices.
- Ask as many questions as you want.
- Keep asking questions until you understand the information.



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**THINGS TO REMEMBER**



- Eat breakfast before you come to the clinic for treatment
- Take scheduled medications unless otherwise directed
- No children in chemo
- No pets in chemo
- Try not to wear perfumes or scented lotions
- You may bring, or order-in food
- Bring your oral pain medications
- If using oxygen at home, bring a full portable tank and tubing
- Wear layered clothing



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**SOME THINGS TO KNOW, FOR APPROXIMATELY 48HRS POST CHEMO:**

- Flush toilet with lid down
- Also keep the lid down to prevent pets from drinking the water
- Barrier protection during intercourse
- Any linens contaminated with body fluids should be washed twice in hot water

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**CHEMO SCHEDULING**

- The amount of time you'll spend in the treatment suite may be a from a few minutes to 8 hours, depending on the chemotherapy regimen.
- We schedule between the hours of 8 a.m. and 5 p.m.
- If your treatment is less than 3 hours, it will usually need to be scheduled in the afternoon. This is crucial to accommodate the many patients who have longer treatments so that delays do not occur.
- Treatments of 7-8 hours will be scheduled the day after your office visit with your Provider.
- Please be patient with the schedulers. They will try to be as flexible as possible.

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**WHAT IS PROVIDED FOR PATIENTS**

- TVs with headphones
- Wi-Fi Hot Spot Internet Access (Ask the nurse for the password)
- Blankets, pillows, snacks, coffee, hot water, juices, sodas, ice water, various nutritional supplement drinks.
- Support Resources: Consultation with Nutritionist, Financial Patient Advocates and group or single setting with Social Workers.

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**YOU ARE NOT ALONE**

**Your Support Team at CCNW:**

- Physicians
- Radiologists
- Surgeons
- Nurse Practitioners
- Primary & Certified Chemotherapy Nursing Staff
- Stress Support Counselors
- Nutritionist
- Patient Advocates
- Lab
- Radiation and Pharmacy Technicians
- Reception – Medical Records Staff
- Research Services

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**PATIENT  
CHEMOTHERAPY  
EDUCATION**

**© CANCER CARE  
NORTHWEST**  
2006 – REVISED 2007,  
2008, 2009, 2011, 2017,  
2019, 2020

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Narrator: Nancy Hoffman, RN BSN, Oncology  
Nurse  
Revised: 08-26-2020; 12-02-2020



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