



**Table: Study Tool**

<b>Anti-NEO PLASTIC man Study Tool</b> <b>High-Yield Med Reviews</b>			
Organ or Body Part	Drug Name	Target	Notes
GI "Fu"	Fluorouracil (5-FU) (Adrucil)	<ul style="list-style-type: none"> <li>Pyrimidine analogue</li> <li>Inhibits thymidylate synthetase</li> </ul>	<ul style="list-style-type: none"> <li>SE: GI (diarrhea), BMS (anemia, agranulocytosis, leukopenia)</li> <li>Low emetic risk</li> </ul>
Bone "A"	Asparaginase (Elspar - DSC)	<ul style="list-style-type: none"> <li>Hydrolyzes L-asparagine to ammonia &amp; L-aspartic acid</li> </ul>	<ul style="list-style-type: none"> <li>Use: Acute Lymphoblastic Leukemia</li> <li>SE: Low risk for BMS, anaphylaxis</li> <li>Low emetic risk</li> </ul>
Lungs "B"	Bleomycin (Blenoxane)	<ul style="list-style-type: none"> <li>Binds to DNA &amp; inhibits DNA synthesis</li> </ul>	<ul style="list-style-type: none"> <li>Use: Hodgkin lymphoma</li> <li>SE: Pulmonary fibrosis (SOB), skin hyperpigmentation</li> </ul>
Lungs "B"	Busulfan (Busulfex)	<ul style="list-style-type: none"> <li>Alkylating agent that reacts to N-7 position of guanosine to interfere with DNA replication &amp; transcription of RNA</li> </ul>	<ul style="list-style-type: none"> <li>Use: CML, Hematopoietic stem cell, polycythemia vera</li> <li>SE: Pulmonary fibrosis (SOB), seizures (premedicate with anticonvulsant), N/V, BMS</li> <li>Moderate emetic risk</li> </ul>
Bladder	Cyclophosphamide (Cytoxan)	<ul style="list-style-type: none"> <li>Alkylating Agent (Nitrogen Mustard)</li> </ul>	<ul style="list-style-type: none"> <li>Uses: Many cancers</li> <li>SE: Metabolized to acrolein → hemorrhagic cystitis at doses &gt; 1g/m<sup>2</sup> so give with mesna &amp; fluids; alopecia, BMS (recovers 7-10 d)</li> <li>Dose based on actual body wt</li> <li>Moderate to high emetic risk</li> </ul>
Eyes CNS "Ca"	Cytarabine (ara-C)	<ul style="list-style-type: none"> <li>Pyrimidine analogue that incorporates into DNA to inhibit</li> </ul>	<ul style="list-style-type: none"> <li>SE: Eye (keratitis, conjunctivitis), cerebellar toxicity at doses &gt;1g/m<sup>2</sup></li> <li>Moderate emetic risk</li> </ul>
Ears Head Mouth Kidneys "Cp"	Cisplatin (Platinol)	<ul style="list-style-type: none"> <li>Alkylating Agent</li> </ul>	<ul style="list-style-type: none"> <li>SE: Ototoxicity, CNS toxicity, Acute &amp; delayed emesis, nephrotoxicity (give IV fluids or amifostine pretreatment)</li> <li>High emetic risk</li> </ul>
Heart IV Bag	Daunorubicin (Cerubidine) Doxorubicin (Adriamycin) Epirubicin (Ellence) Idarubicin (Idamycin)	<ul style="list-style-type: none"> <li>Anthracycline</li> <li>Topoisomerase II Inhibitor</li> </ul>	<ul style="list-style-type: none"> <li>SE: Cardiac toxicity (if cumulative doses &gt; 400mg/m<sup>2</sup> (risk rises if &gt; 900 mg/m<sup>2</sup> with epirubicin); extravasation risk (consider dexrazoxane for both), BMS</li> <li>Moderate to high emetic risk</li> </ul>
IV Bag	Dactinomycin (Cosmegen)	<ul style="list-style-type: none"> <li>Binds to guanine of DNA inhibiting DNA/RNA synthesis</li> </ul>	<ul style="list-style-type: none"> <li>SE: Extravasation risk, BMS (onset 7d, nadir 14-21d, recovery 21-28d)</li> <li>Dose based on BSA</li> </ul>
Thumb	Eribulin (Halaven)	<ul style="list-style-type: none"> <li>Antimicrotubule</li> </ul>	<ul style="list-style-type: none"> <li>Use: Breast Ca, Liposarcoma</li> <li>SE: Peripheral neuropathy, BMS, QT prolongation</li> <li>Low emetic risk</li> </ul>

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Fingers	Ixabepilone (Ixempra)	Antimicrotubule ▪ Epothilone B Analog	<ul style="list-style-type: none"> <li>▪ Use: Breast cancer</li> <li>▪ SE: Peripheral neuropathy, hypersensitivity rxn due to polyoxyethylated castor oil (pre-medicate with H1RA &amp; H2RA +/- steroids), BMS</li> <li>▪ Sub: CYP3A4 (risk of DDI)</li> </ul>
Bladder	Ifosfamide (Ifex)	▪ Alkylating Agent (Nitrogen Mustard)	<ul style="list-style-type: none"> <li>▪ Uses: Numerous cancers</li> <li>▪ SE: Metabolized to acrolein → hemorrhagic cystitis (give mesna)</li> </ul>
GI tract	Irinotecan (Camptosar)	▪ Topoisomerase I inhibitor	<ul style="list-style-type: none"> <li>▪ Use: Colorectal Ca</li> <li>▪ SE: Severe acute &amp; delayed diarrhea, pulmonary fibrosis, BMS</li> <li>▪ Moderate emetic risk</li> <li>▪ PGx: UGT1A1*28 → neutropenia risk</li> <li>▪ Sub: 3A4, P-gp → risk of DDIs</li> </ul>
Mouth Liver	Methotrexate	▪ Dihydrofolate reductase inhibitor	<ul style="list-style-type: none"> <li>▪ SE: Mucositis, liver toxicity/fibrosis</li> <li>▪ Tox: Antidotes = leucovorin, glucarpidase</li> </ul>
IV Bag	Mechlorethamine (Mustargen)	▪ Alkylating Agent (Nitrogen Mustard)	<ul style="list-style-type: none"> <li>▪ Use: Hodgkin lymphoma</li> <li>▪ SE: Extravasation risk (if occurs inject sodium thiosulfate then apply dry cold compress for 6-12 hrs), BMS</li> </ul>
Mouth Joints	Oxaliplatin (Eloxatin)	▪ Alkylating Agent (Platinum Analog)	<ul style="list-style-type: none"> <li>▪ SE: Oral pharyngeal paraesthesia, peripheral neuropathy, avoid exposure to cold stimulus to avoid exacerbation; QT prolongation, anaphylactoid reactions, BMS</li> <li>▪ Moderate emetic risk</li> </ul>
Pancreas	Streptozocin (Zanosar)	▪ Alkylating Agent (Nitros urea)	<ul style="list-style-type: none"> <li>▪ Use: Pancreatic islet cancer</li> <li>▪ SE: Insulin dependent diabetes, N/V, liver &amp; renal toxicity, secondary cancer</li> </ul>
Hands Feet	Cabazitaxel (Jevtana) Docetaxel (Taxotere) Paclitaxel (Taxol)	<ul style="list-style-type: none"> <li>▪ Taxane</li> <li>▪ Antimicrotubular agent</li> </ul>	<ul style="list-style-type: none"> <li>▪ SE: Peripheral neuropathy (mainly paclitaxel), edema (mainly docetaxel), BMS, hypersensitivity rxn (possibly from polysorbate 80)</li> <li>▪ Low emetic potential</li> <li>▪ Sub: 3A4</li> </ul>
Hands Feet	Thalidomide (Thalomid) Lenalidomide (Revlimid)	<ul style="list-style-type: none"> <li>▪ Angiogenesis inhibitor</li> <li>▪ Systemic Immunomodulator</li> </ul>	<ul style="list-style-type: none"> <li>▪ SE: Teratogenicity (dysmelia), peripheral neuropathy (lenalidomide less neurotoxic than thalidomide), BMS, bradycardia, skin reactions (SJS/TEN), VTE</li> <li>▪ Only available via REMS program</li> </ul>
Arms / Legs Bone IV bag	Vinblastine (Velban) Vincristine (Oncovin) Vinorelbine (Navelbine)	<ul style="list-style-type: none"> <li>▪ Vinca alkaloids</li> <li>▪ Antimicrotubular</li> </ul>	<ul style="list-style-type: none"> <li>▪ SE: Peripheral neuropathy (vincristine &gt;&gt; vinblastine), extravasation risk (inject hyaluronidase into tissue), BMS (with vincristine causing it less)</li> <li>▪ Sub: CYP3A4 &amp; P-gp (except vincristine)</li> </ul>
Arms / Legs Bone IV bag	(Velcade) Bortezomib	▪ Proteasome inhibitor	<ul style="list-style-type: none"> <li>▪ SE: Peripheral neuropathy, extravasation risk (inject hyaluronidase into tissue), BMS</li> <li>▪ Given IV or SubQ only</li> </ul>