

**Fred Hutch Cancer Center**

# Managing Myeloma

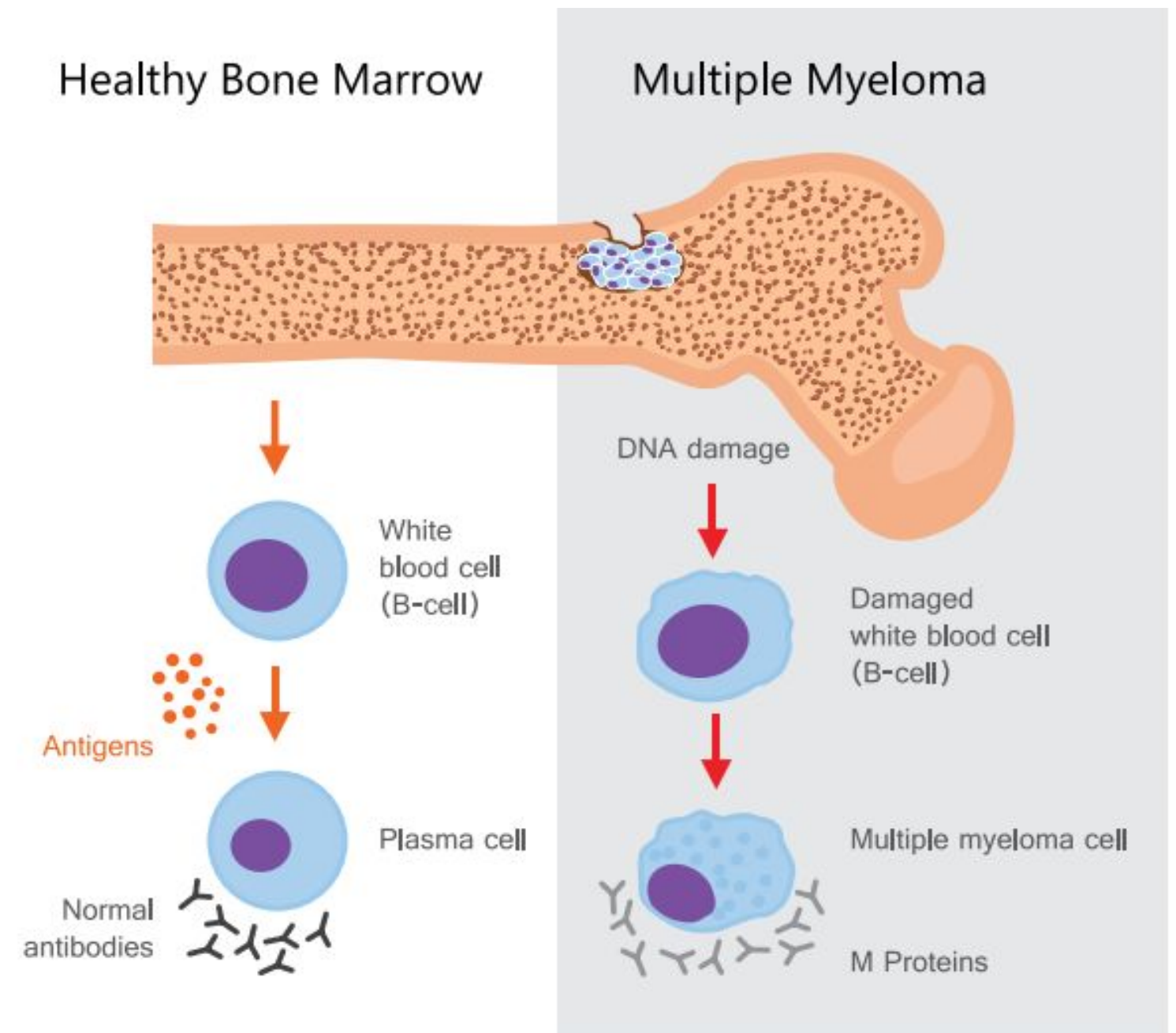
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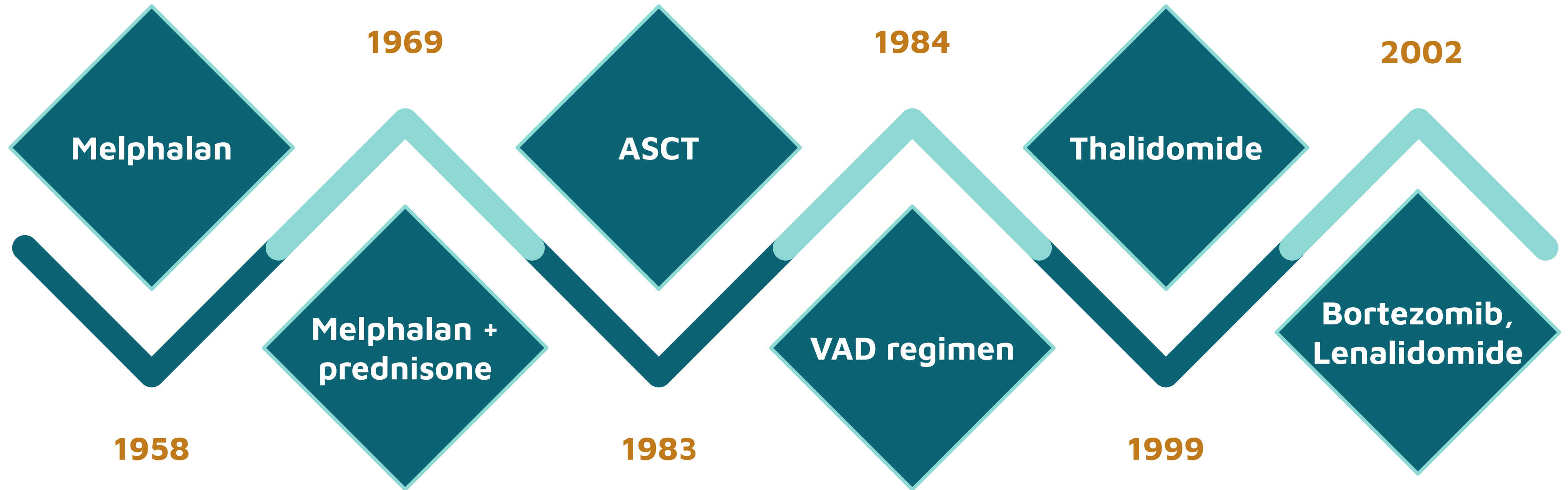
Hematology and Oncology Clinical Pharmacist

# Myeloma at a Glance

- Myeloma is a blood cancer that arises in the bones and other areas
- Occurs usually in older patients (ages 65+)
- Goal: control disease and prevent complications using multidrug regimens
- Additionally, we work to manage/prevent side effects associated with the drugs



# Drug Timeline



# Drug Timeline



# How do we make the right choice?

## Patient-related Factors

Age, frailty, comorbidities

**Efficacy and Toxicity  
of previous  
treatments**



## Disease-related Factors

relapse vs newly diagnosed,  
cytogenetic risk

## Further options

Side effect profiles of potential  
regimens

# Medications to discuss

Immunomodulator agents (**lenalidomide, pomalidomide**, thalidomide)

Proteasome inhibitors (**bortezomib, carfilzomib**, ixazomib)

Corticosteroids (**dexamethasone**, prednisone)

Monoclonal antibodies (**daratumumab, isatuximab, elotuzumab**)

Selinexor

Venetoclax

Belanatamab

Teclistamab

# Proteasome Inhibitors

Drug	Administration	Side Effects	How to manage?
<b>Class Effects</b>		<ul style="list-style-type: none"><li>● Viral infections</li><li>● Decreased blood counts</li><li>● Fatigue</li></ul>	<ul style="list-style-type: none"><li>● Antiviral medications (acyclovir or valacyclovir)</li><li>● Monitor blood counts +/- dose reductions/holidays</li></ul>
<b>Bortezomib (Velcade)</b>	Subcutaneous (under the skin)	<ul style="list-style-type: none"><li>● Peripheral neuropathy</li><li>● Diarrhea or constipation</li></ul>	<ul style="list-style-type: none"><li>● Watch for numbness, tingling, pain in fingers and toes</li><li>● Dose reduction; pain medications (e.g. duloxetine, gabapentin, etc.)</li><li>● Anti-diarrheal medication or bowel regimen</li></ul>
<b>Carfilzomib (Kyprolis)</b>	intravenous	<ul style="list-style-type: none"><li>● Cardiotoxicity</li><li>● Peripheral neuropathy (lower incidence)</li></ul>	<ul style="list-style-type: none"><li>● Screen for cardiac risk factors</li><li>● Watch for trouble breathing, cough, rapid heart rate, chest pain/tightness, swelling in ankles/feet</li><li>● Monitor fluid status &amp; blood pressure</li></ul>

# Immunomodulating Agents

Drug Name	Side Effects	How to manage?
<b>Class Effects</b>	<ul style="list-style-type: none"><li>● Risk of birth defects</li><li>● Blood clots</li><li>● Rash</li><li>● Fatigue</li></ul>	<ul style="list-style-type: none"><li>● REMS program</li><li>● Contraception</li><li>● Blood thinners</li><li>● Steroid creams +/- antihistamine</li></ul>
<b>Lenalidomide</b> <i>(Revlimid)</i>	<ul style="list-style-type: none"><li>● Diarrhea</li><li>● Low blood counts/infection risk</li></ul>	<ul style="list-style-type: none"><li>● Antidiarrheal medications</li><li>● Monitor blood counts +/- dose reduction/treatment break</li></ul>
<b>Pomalidomide</b> <i>(Pomalyst)</i>	<ul style="list-style-type: none"><li>● Low Blood Counts/infection risk</li></ul>	<ul style="list-style-type: none"><li>● Monitor blood counts +/- dose reduction/treatment break</li></ul>



# Managing diarrhea

- Occurs in about 40-50% of patients on lenalidomide
- Fluid intake is very important
- Over the counter meds (loperamide/*Imodium*) can be used
- If diarrhea persists or worsens, contact team





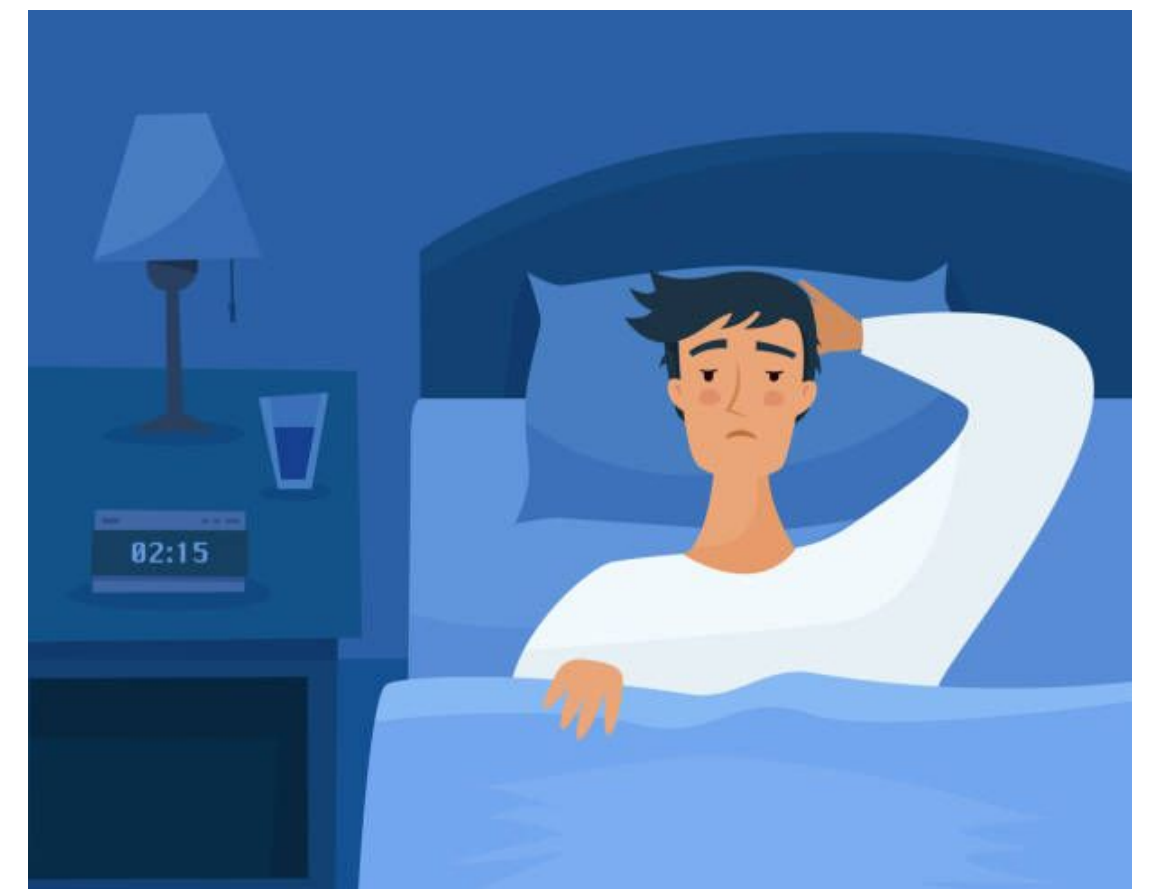
# Managing constipation

- Incidence varies by regimen
- Fluid intake is also very important
- Increase fresh fruit/veggie intake
- Over the counter (OTC) medications (e.g. senna, Miralax)
- If constipation persists or worsens, contact team



# Steroids (dexamethasone, prednisone)

- Steroids are often used to treat myeloma
- Potential side effects
  - Trouble sleeping/increased energy
  - Upset stomach
  - Increased blood sugars
  - Mood changes
  - Swelling in feet/ankles
- Take with food in the morning to prevent stomach upset/trouble sleeping





## **Selinexor (*Xpovio*)**

- Targeted medication approved in later lines of therapy
- Administered by mouth on a weekly basis
- Potential side effects:
  - Decreased platelet count
  - Infection risk (temp. 100.4+ F, trouble breathing, cough, chills)
  - Nausea/vomiting
  - Electrolyte disturbances
  - Fatigue

# Selinexor: Supportive Care

## Side Effects

### Nausea and Vomiting:

- Premedicate with ondansetron (*Zofran*) 8 mg
- Onset : ~Day 3

### Hematological Side Effects:

- Low platelets: onset ~ 3 weeks
- Low neutrophils: onset ~3-4 weeks

### Other Side Effects:

- Hyponatremia (low sodium): onset day 8
- Fatigue
- Loss of appetite



### Nausea and Vomiting

- Consider adding olanzapine

### Low blood counts

- Weekly labs during 1<sup>st</sup> three months
- Dose reductions based on platelet and neutrophil count
- Platelet transfusions and growth factors

### Appetite Hyponatremia Fatigue

- Appetite stimulant and/or nutrition consult
- Weekly serum sodium monitoring for Cycle 1



## **Venetoclax (*Venclexta*)**

- Targeted medication approved in later lines of therapy
- Administered by mouth on a daily basis
- Potential side effects:
  - Infection risk (temp. 100.4+ F, trouble breathing, cough, chills)
  - Decreased platelet count
  - Tumor lysis syndrome (see next slide)
  - Nausea/vomiting
  - Diarrhea



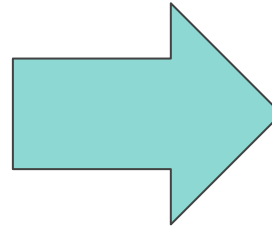
# Venetoclax TLS Prevention

- What is tumor lysis syndrome?
  - Caused early in therapy by rapid breakdown of cancer cells leading to electrolyte abnormalities in the body
  - Symptoms: nausea, dark urine, flank pain, muscle cramps, racing heart
  - Tends to be less common in myeloma patients
- How do we prevent this?
  - We recommend increased hydration starting 2-3 days before first dose
  - We often start with a low dose then increase over a few days
  - We start a drug called allopurinol
  - We monitor labs closely, especially early on after starting venetoclax



# Monoclonal Antibodies

- Newly introduced class of “building blocks” to treat myeloma
- Mechanism of action is related to monoclonal antibody target
  - **Daratumumab:** targets CD38
  - **Elotuzumab:** targets SLAMF7
  - **Isatuximab:** targets CD38
  - **Belantamab Mafodotin** (antibody-drug conjugate): targets B-cell maturation antigen
  - **Teclistimab:** targets B-cell maturation antigen



**Most common concern?**

Infusion Related Reactions

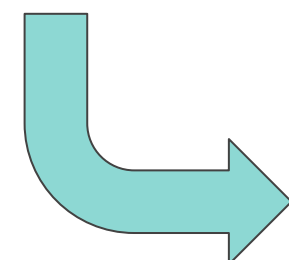


# Monoclonal Antibodies Comparison

	Daratumumab (IV/SQ)	Isatuximab	Elotuzumab
MOA	Anti-CD38	Anti-CD38	Targets SLAMF7
FDA indications	<ul style="list-style-type: none"> <li>Newly diagnosed</li> <li>R/R</li> </ul>	<ul style="list-style-type: none"> <li>R/R</li> </ul>	<ul style="list-style-type: none"> <li>R/R</li> </ul>
Adverse Events	<ul style="list-style-type: none"> <li>Infusion-related reactions (IRR) (30-50% with Iv, 10-15% with SQ)</li> <li>Low blood counts</li> <li>Infection</li> </ul>	<ul style="list-style-type: none"> <li>Infusion related reaction</li> <li>Low blood counts</li> <li>Infection</li> </ul>	<ul style="list-style-type: none"> <li>Infusion related reaction</li> <li>Low blood counts</li> <li>Infection</li> <li>Electrolyte abnormalities</li> <li>Peripheral Neuropathy</li> <li>Hepatotoxicity</li> <li>Gi upset/Appetite change</li> </ul>
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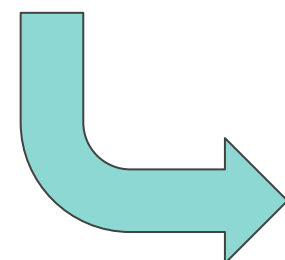
- Acetaminophen 650 – 1000 mg daily
- Diphenhydramine 25-50 mg PO
- Dexamethasone 20 mg IV/PO (in combination regimens)

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- Post infusion dexamethasone
- Montelukast

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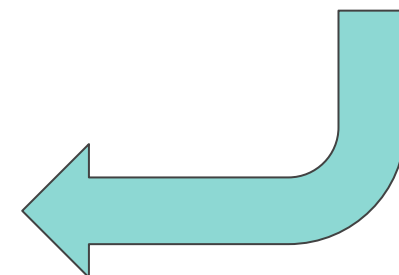


- Acetaminophen 650 – 1000 mg daily
- Diphenhydramine 25-50 mg PO
- Dexamethasone 20-40 mg IV/PO (in combination regimens)
- Famotidine 20 mg

# Monoclonal Antibodies Comparison

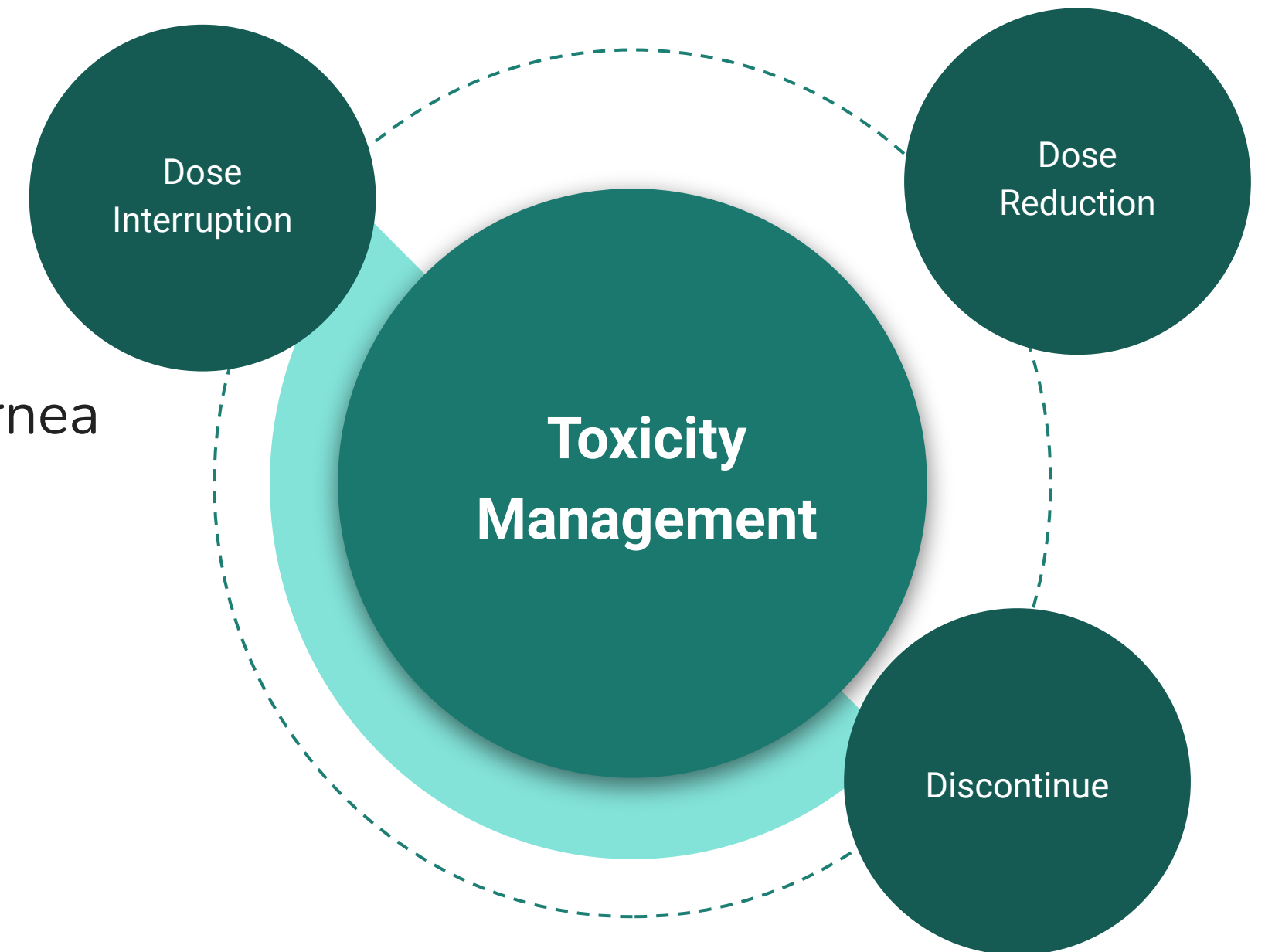
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- Acetaminophen 650 – 1000 mg daily
- Diphenhydramine 25-50 mg PO
- Dexamethasone (pre and post)
- Famotidine 20 mg



# Belantamab Mafodotin: Eye Toxicity

- Majority of patients experience eye toxicity, usually within first 2 cycles of therapy
- Patients must have eye exams at baseline and prior to each dose to monitor for changes in cornea
- Recommendation to apply preservative free artificial tears four times daily when starting belantamab
- **Other side effects:** low blood counts, infusion reaction and electrolyte imbalances





# Teclistimab

- Approved October 25, 2022
- Approved in later-lines after 4 or more prior lines of therapy
- First in its class bispecific T-cell engager antibody that is given as an injection
- Side Effects:
  - Cytokine release syndrome
  - Neurological toxicity
  - Low blood counts
  - Fever
  - Muscle/bone pain
  - GI changes (nausea, diarrhea, constipation)
  - Headache

-----DOSAGE AND ADMINISTRATION-----

<b>TECVAYLI Recommended Dosing Schedule (2.1)</b>			
<u>Dosing Schedule</u>	<u>Day</u>	<u>Dose</u>	
<b>Step-up Dosing Schedule</b>	Day 1	Step-up dose 1	0.06 mg/kg
	Day 4	Step-up dose 2	0.3 mg/kg
	Day 7	First treatment dose	1.5 mg/kg
<b>Weekly Dosing Schedule</b>	One week after first treatment dose and weekly thereafter	Subsequent treatment doses	1.5 mg/kg once weekly



# Consequences of Chemotherapy Induced Nausea and Vomiting (CINV)

- Impact on quality of life
- Decline of functional ability / performance status
- Metabolic imbalances
- Nutrient depletion
- Loss of appetite
- Esophageal tears
- Hospitalization
- **Withdrawal from treatment**

Neurotransmitter/MOA	Agents	Pros	Cons
5HT3	Ondansetron	Anecdotally efficacious, but no large studies in refractory or delayed	
Dopamine	Olanzapine Metoclopramide Prochlorperazine/promethazine	Sometimes have to switch between agents; not one works for every patient	Sedation
Steroid/inflammation	Dexamethasone	Give patients energy, increase appetite, bone pain	
Anticholinergics	Meclizine scopolamine	Motion sickness	Sedation
Cannabinoid	dronabinol	Appetite stimulation	Sedation, delirium, controlled substance
GABA	lorazepam	anxiolytic	Sedation, addiction risk, controlled substance



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**Thank You.**

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