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APRIL 10-11, 2026

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# Immune Chaos: Navigating Checkpoint Inhibitor Toxicities in Hodgkin Lymphoma

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Kaitlin Kelly, PharmD, BCOP

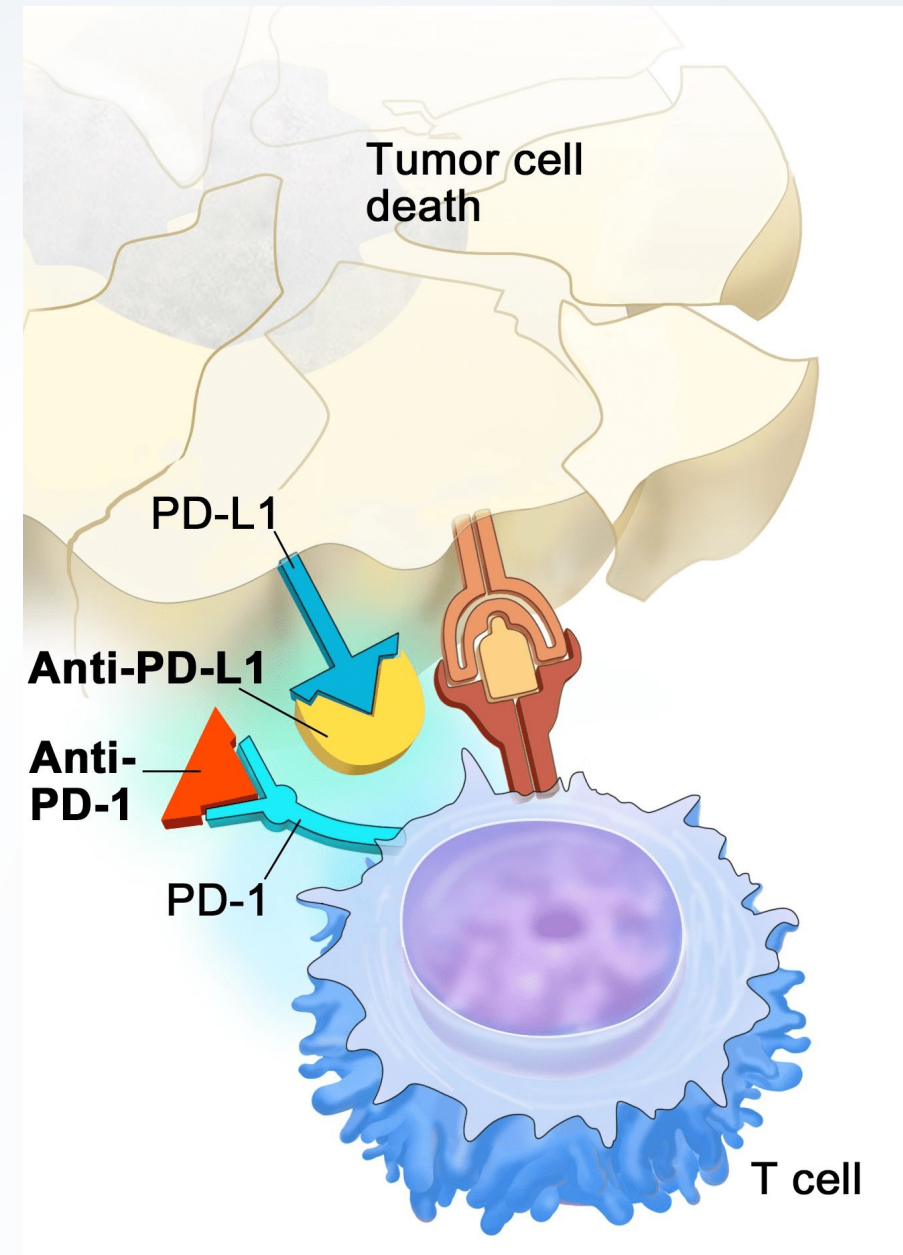
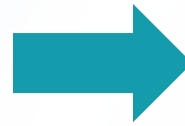
Clinical Pharmacist Specialist, Lymphoma and Multiple Myeloma  
University of Chicago Medicine

# Disclosure

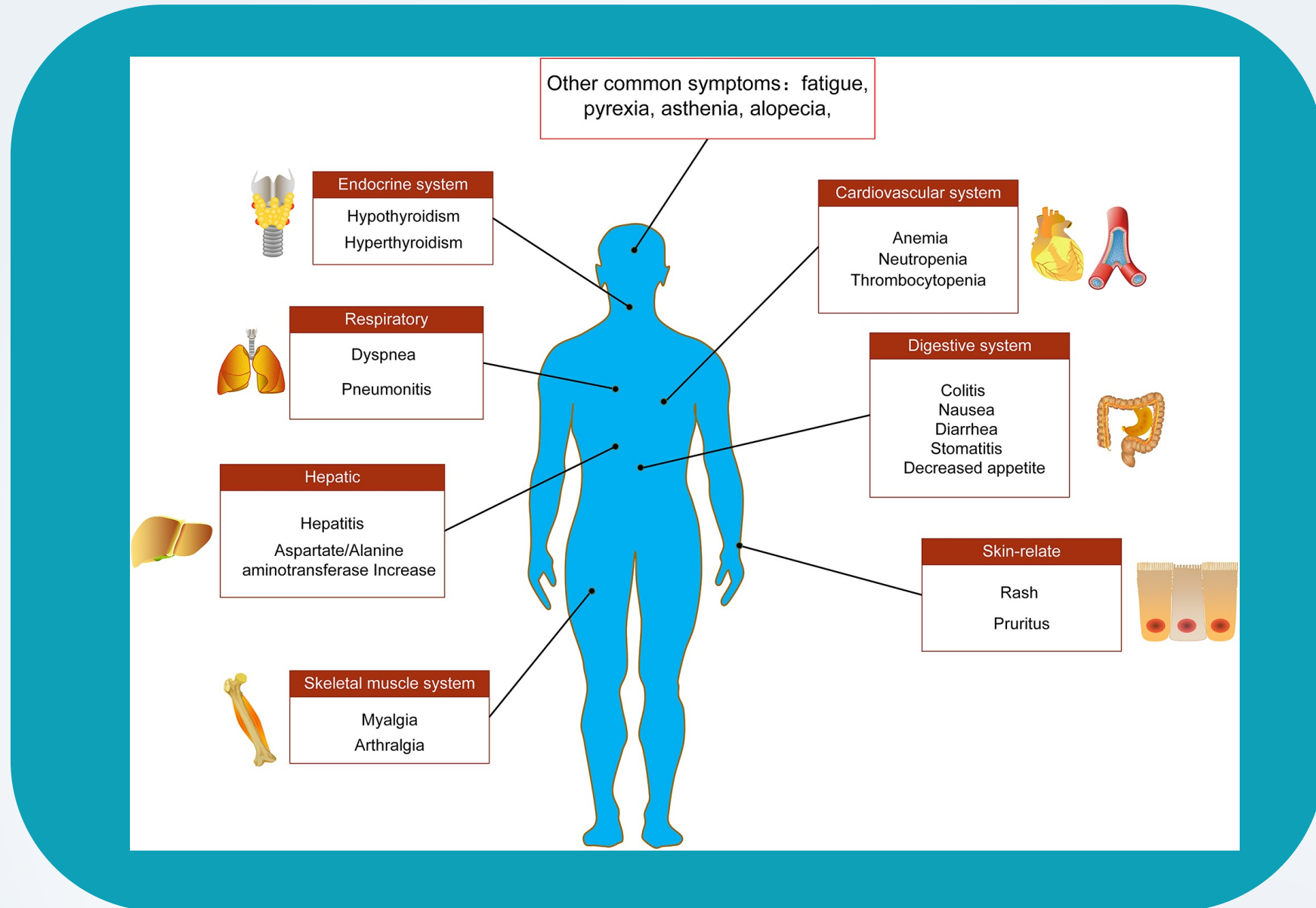
Nothing to disclose

# Checkpoint Inhibitors and Hodgkin Lymphoma

Malignant Reed-Sternberg cells overexpress PD-L1 / PD-L2 due to 9p24.1 genetic amplification



# Immune Related Adverse Events (IrAEs)



# Hodgkin Lymphoma and Checkpoint Inhibitors

Trial	Regimen	# of Cycles	# of Patients	Elevated AST/ALT	Rash/Skin	Thyroid Dysfunction	Adrenal Insufficiency	Pneumonitis	Colitis
SWOG S1826 <i>Advanced cHL</i>	Nivo-AVD arm	6 cycles	483	30-35%	25%	7%	-	2%	1%
NIVAHL Trial <i>Early Stage Unfavorable cHL</i>	Nivo-AVD	4 cycles + IS-RT	109	25%	10-25%	21%	-	<2%	2-5%
MSKCC Pembro-GVD	Pembro-GVD	2-4 cycles	39	41%	15%	10-15%	-	<5%	3-5%
NICE	Nivolumab x 2 to Nivo-ICE	2-3 cycles	35	1-2%	1-3%	1%	-	-	-
CHECKMATE 205	Nivolumab	Until disease progression	243	11%	10-15%	17%	1%%	7%	5%
KEYNOTE-087	Pembrolizumab	Until disease progression	210	20-30%	11-20%	10-15%	-	3%	1-2%
Advani et al (2021)	BV-Nivolumab	4 cycles	91	1%	5%	0%		4%	1%

# Immune Checkpoint Inhibitor Related Toxicities

## Acute = Reversible Damage

- Rapid T-cell Activation
- Inflammatory Surge from rapid proliferation of autoreactive T-cells
- Typically, reversible damage from inflammation to specific organs

## Chronic = Irreversible Damage

- T-cell mediated destruction of specialized cells affecting endocrine glands
- Persistent T-cell activation that waxes and wanes, leading to autoimmune conditions
- Reactivation of memory T-cells causing persistent dysfunction

# Complications of Checkpoint Inhibitors

## Acute Complications

Dermatologic

Hepatotoxicity

Gastrointestinal

Pulmonary

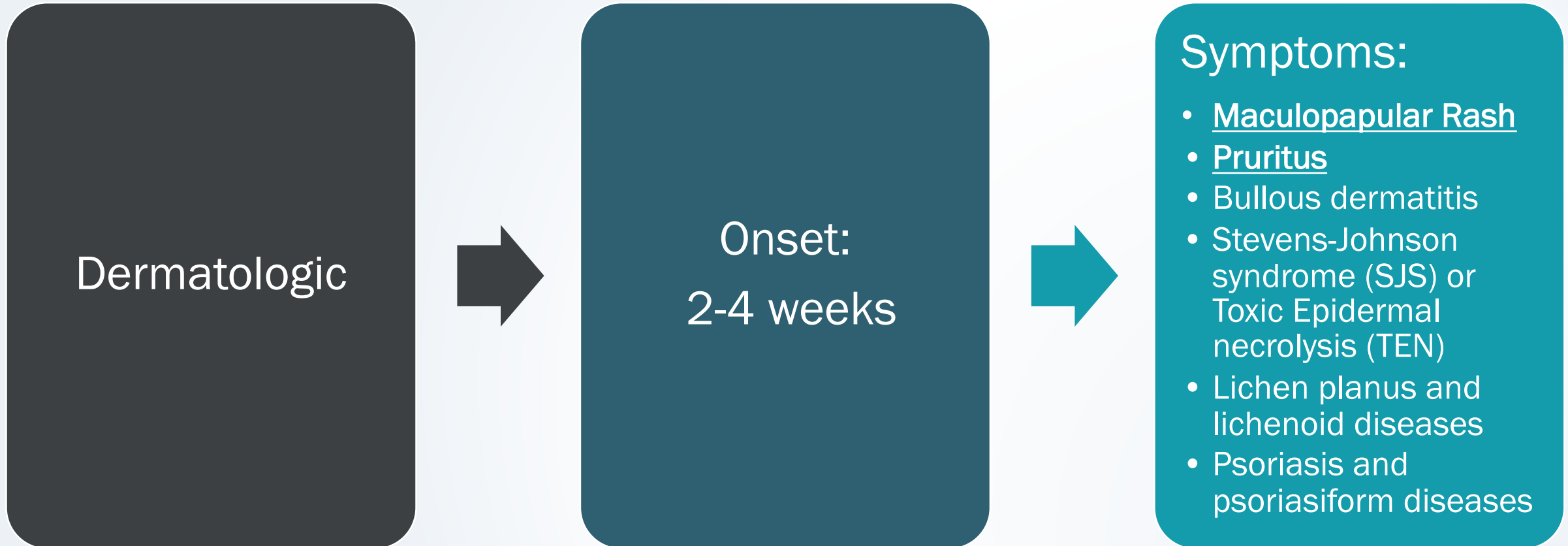
Hematologic

## Chronic Complications

Endocrine Dysfunction

Acute to Chronic  
Complications

# Acute: Dermatologic Toxicity



# Acute: Dermatologic Toxicity

**Maculopapular Rash**  
*Consider dermatological consult*

Grade 1  
Less than 10% BSA

Grade 2  
10-30% BSA

Grade 3  
>30% BSA

- Continue immunotherapy
- Topical emollient and moderate potency steroids to areas
- Pruritus: Antihistamines

- Continue immunotherapy
- Topical emollient + moderate-high potency steroids
- Pruritus: Antihistamines
- If unresponsive within 1 week consider oral prednisone 0.5 mg/kg/day

- HOLD immunotherapy
- High potency topical steroids
- Oral prednisone 0.5-1 mg/kg/day
  - Increase to 2 mg/kg/day if no improvement
- Consider inpatient care

# Acute: Hepatotoxicity

Hepatobiliary  
Toxicity

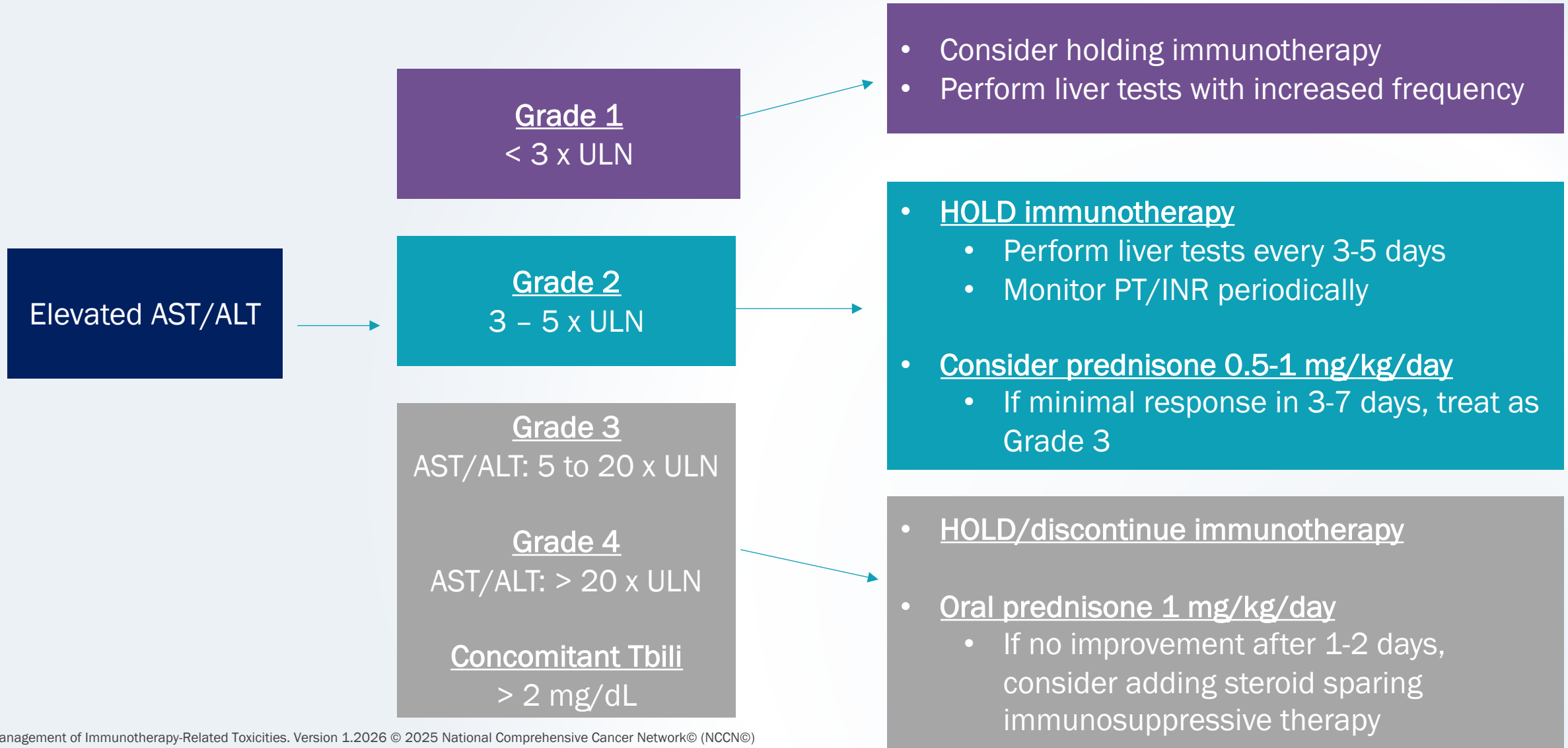
```
graph LR; A[Hepatobiliary Toxicity] --> B[Onset: 6-14 weeks]; B --> C[Symptoms];
```

Onset:  
6-14 weeks

## Symptoms

- Mainly asymptomatic
- Assess hepatotoxic medications
- Consider CK, aldolase, and ferritin
- Consider abdominal US
- Consider hepatology referral

# Acute: Hepatotoxicity



# Steroid Refractory Autoimmune Hepatitis

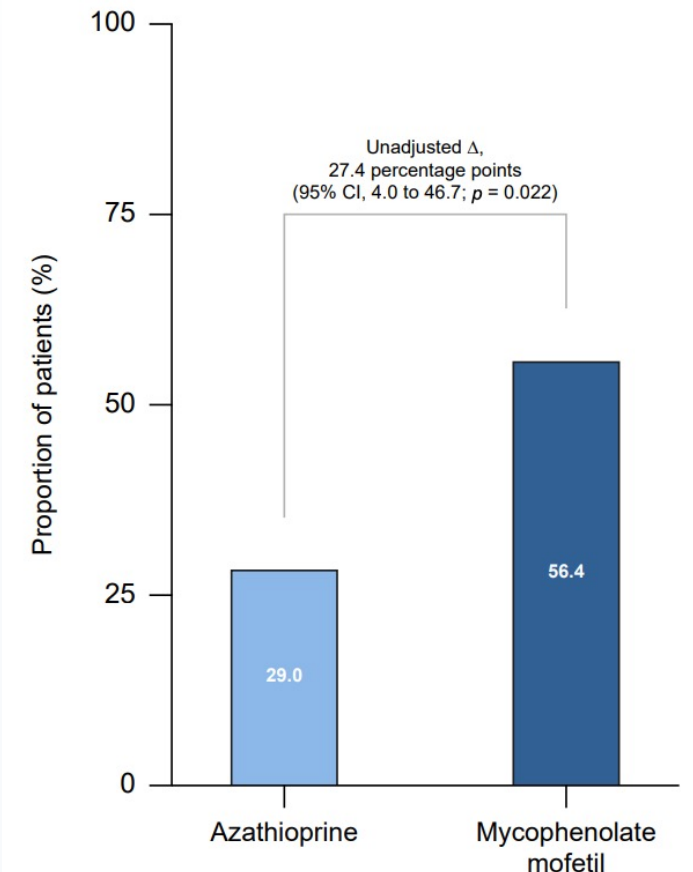
- Incidence: 0.3-1.5%
- Recommend urgent GI/hepatology referral
- Steroid refractory: No improvement after 1-2 days of prednisone

Prednisone 0.5-1 mg/kg/day

Mycophenolate mofetil (MMF)  
Max dose: 1.5 g every 12 hours

Tacrolimus  
Lowest dose with biochemical response (no goal trough)

## Azathioprine vs. MMF in steroid refractory autoimmune hepatitis



# Chronic: Endocrine Dysfunction

Thyroiditis /  
Hypothyroidism



Onset:  
4-8 weeks



## Symptoms

- Fatigue
- Weight gain
- Cold Intolerance
- Arthralgias
- Hair thinning
- Constipation

Hypophysitis /  
Adrenal  
Insufficiency



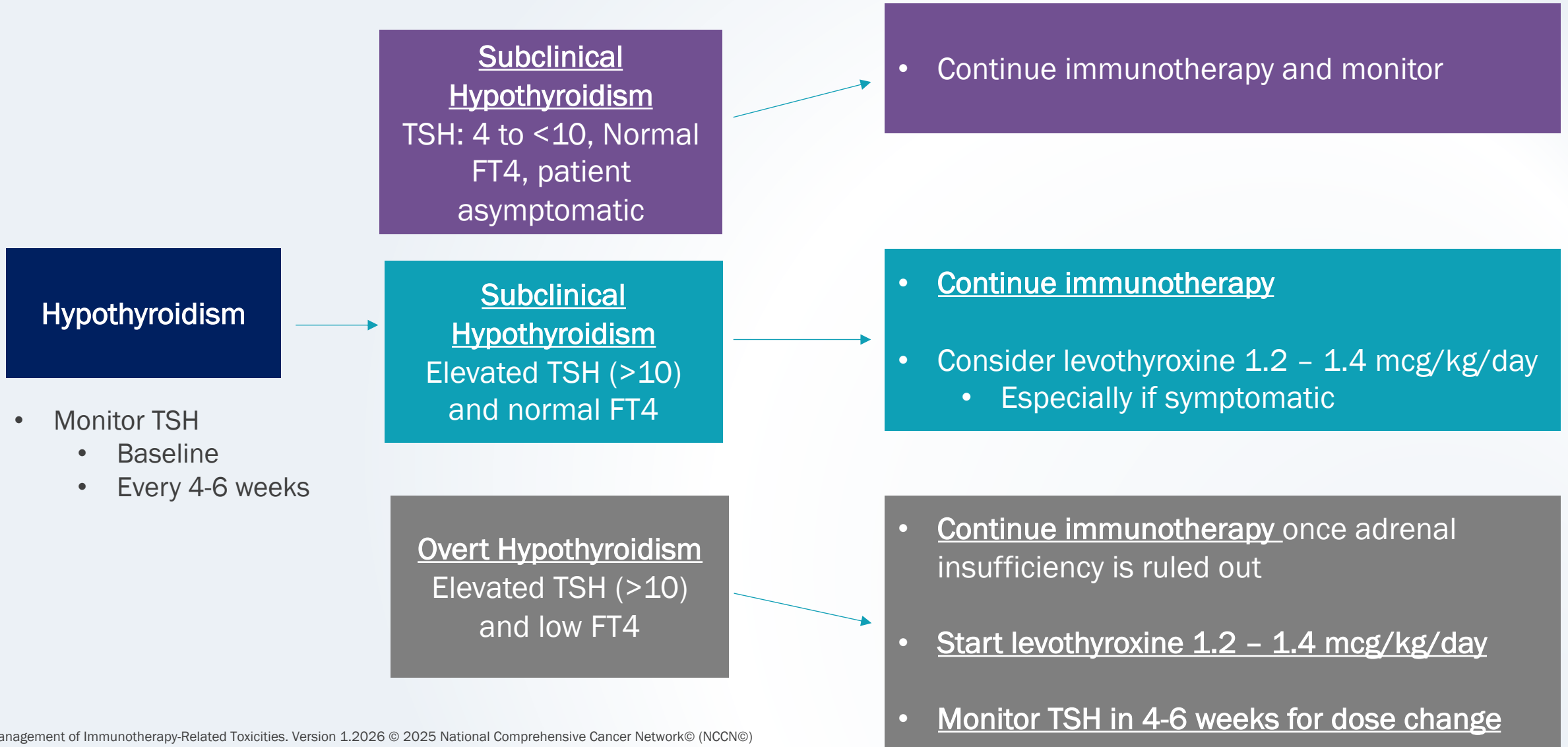
Onset:  
8-12 weeks



## Symptoms

- Fatigue
- Nausea
- Anorexia
- Weakness
- Abdominal pain
- Hypotension

# Chronic: Endocrine Dysfunction



# Chronic: Endocrine Dysfunction

## Thyrotoxicosis

- Low or suppressed TSH + high FT4/total T3
  - Continue immunotherapy if asymptomatic
  - Consider propranolol or atenolol or metoprolol as needed
  - Endocrinology referral recommended
  - Repeat TFTs in 4-6 weeks

## Adrenal Insufficiency

- High ACTH with low morning cortisol, abdominal cosyntropin stimulation test
  - Overall rare diagnosis
  - Endocrinology referral recommended

# Acute to Chronic Immune Checkpoint Inhibitor Related Toxicities

## Pneumonitis

- Onset: 8-12 weeks
  - May become chronic if fibrotic and last months to years
  - Monitor with history of bleomycin exposure in R/R setting

## Colitis

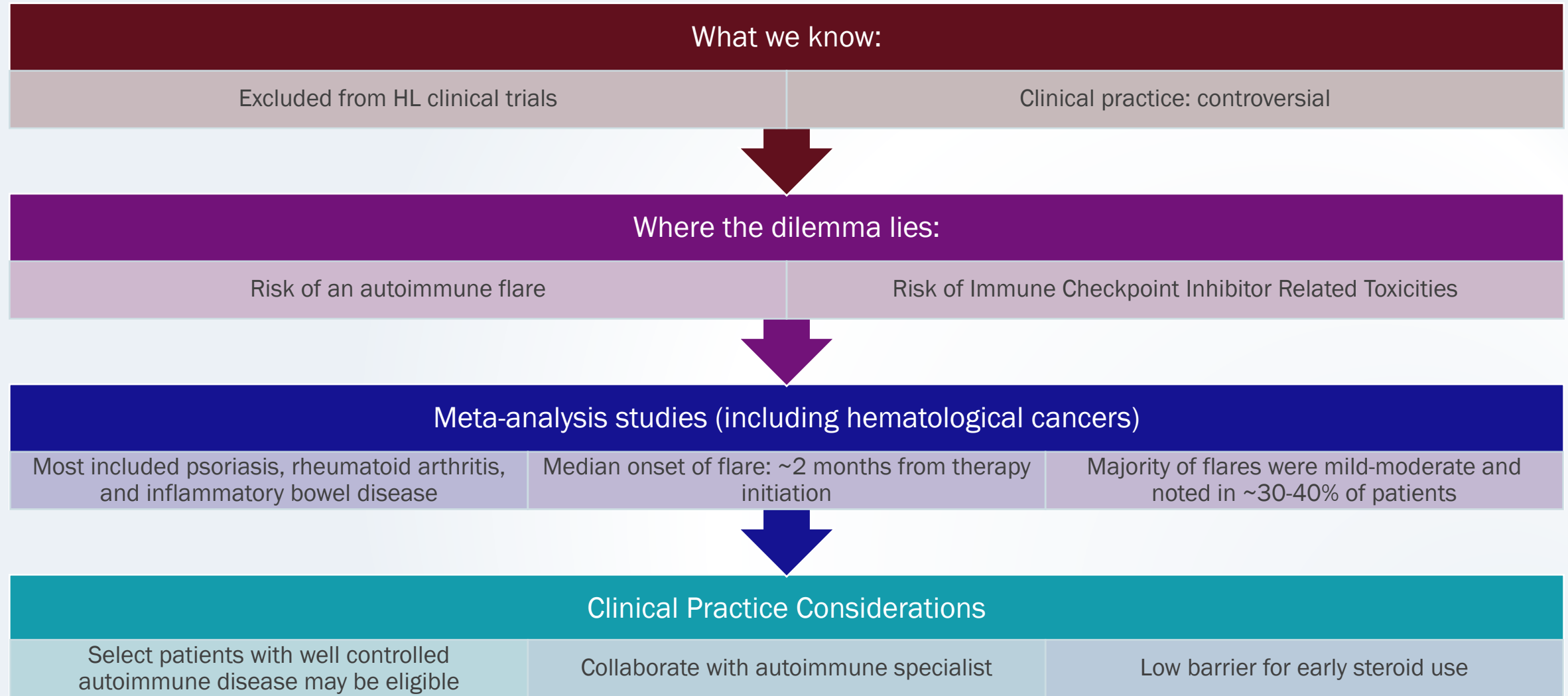
- Onset: 5-10 weeks
  - Monitor if chemotherapy is a part of treatment

## Dermatologic

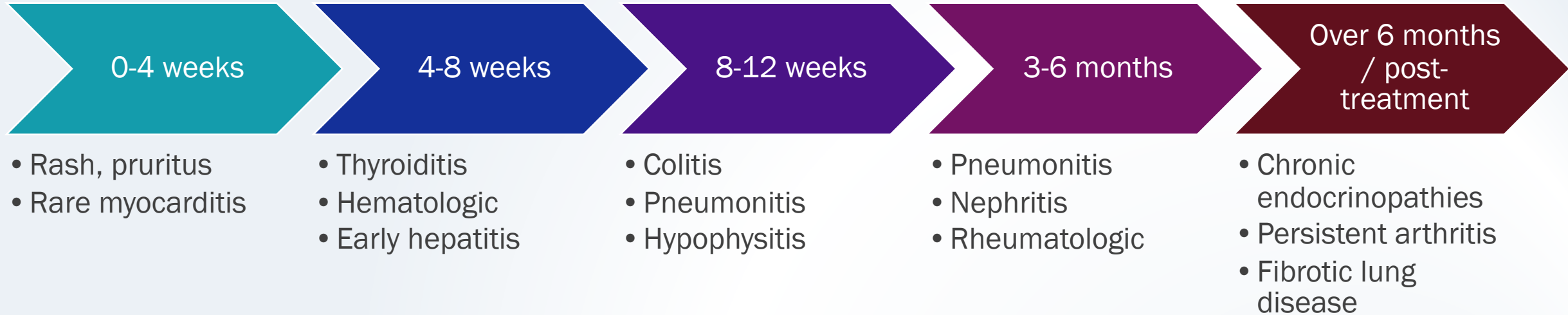
- Onset 2-6 months
  - Chronic autoimmune skin disease may persist
    - Monitor with rheumatologic adverse events (inflammatory arthritis, myositis)

# Other Considerations

## Previous Autoimmune Disease



# Immune Checkpoint Inhibitor Toxicity Summary



## Considerations

Is this a reversible or irreversible toxicity?  
Which management: Topical vs. oral corticosteroids or hormone therapy?  
Should a referral be placed to another specialist for co-management?

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# Thank you!

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Kaitlin Kelly, PharmD, BCOP

Clinical Pharmacist Specialist, Lymphoma and Multiple Myeloma

University of Chicago Medicine

[Kaitlin.kelly2@uchicagomedicine.org](mailto:Kaitlin.kelly2@uchicagomedicine.org)

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