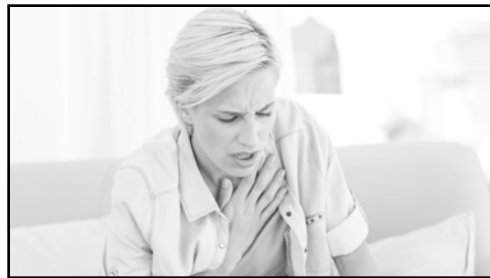




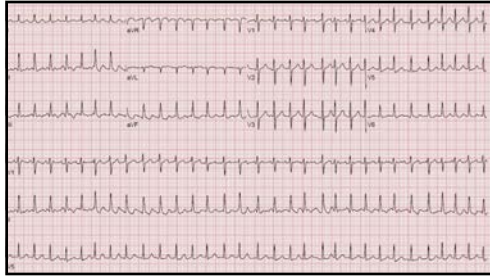
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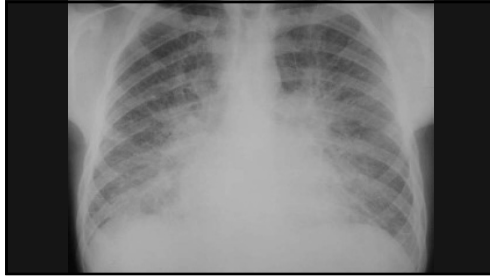
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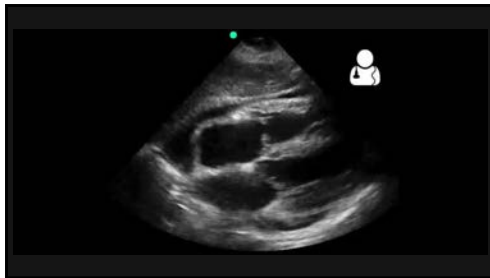
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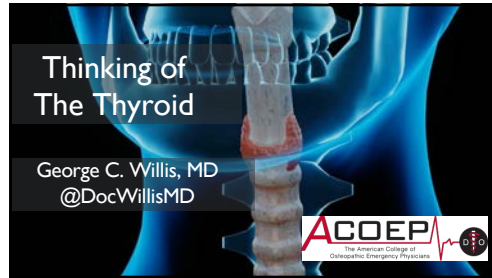
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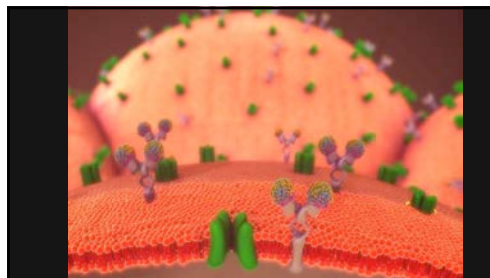
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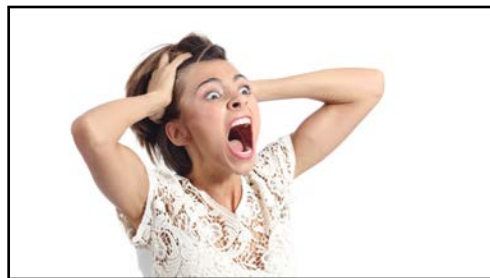
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PITFALL
Thyroid storm is often misdiagnosed!

- Sepsis
- CNS infection
- Alcohol withdrawal
- Cocaine
- Hypertensive emergency
- CHF
- Heat-related illness

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Scoring Systems?

Burch-Wartofsky scoring system

Akamizu/Japanese Thyroid Assoc. criteria

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Criteria	Points
Thermoregulatory dysfunction	
Temperature (F)	
99.0-99.9	5
100.0-100.9	10
101.0-101.9	15
102.0-102.9	20
103.0-103.9	25
≥ 104.0	30
Cardiovascular	
Tachycardia (beats per minute)	
100-109	5
110-119	10
120-129	15
130-139	20
≥ 140	25
Atrial fibrillation	
Absent	0
Present	10
Congestive heart failure	
Absent	0
Mild	5
Moderate	10
Severe	20

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Criteria	Points
Gastrointestinal-hepatic dysfunction	
Manifestation	
Absent	0
Moderate (diarrhea, abdominal pain, nausea/vomiting)	10
Severe (jaundice)	20
Central nervous system disturbance	
Manifestation	
Absent	0
Mild (agitation)	10
Moderate (delirium, psychosis, extreme lethargy)	20
Severe (seizure, coma)	30
Precipitant history	
Status	
Positive	10
Negative	0

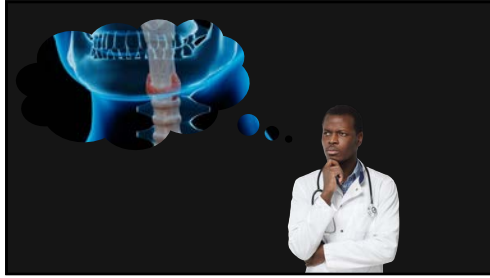
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Criterion	Burch and Wartofsky	Akamizu et al.
Thyrototoxicosis	Not included	Pre-requisite
Scoring system	Included	Not included
Fever	$\geq 37.2^\circ$	$\geq 38^\circ\text{C}$
Heart rate	≥ 90 bpm	≥ 130 bpm
Atrial fibrillation	Included	Not included
Heart failure	Pedal edema to pulmonary edema	NYHA classification class IV or Killip classification \geq III
Serum bilirubin concentrations	Not included	> 3 mg/dL
Jaundice	Included	Not included

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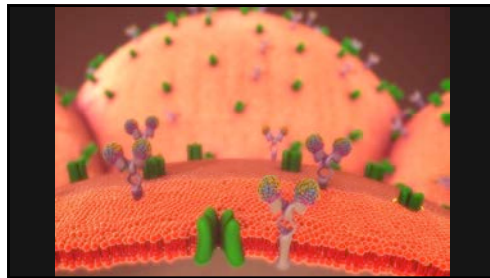
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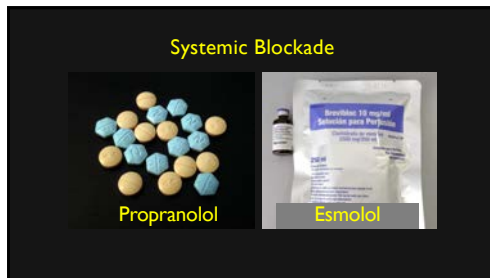
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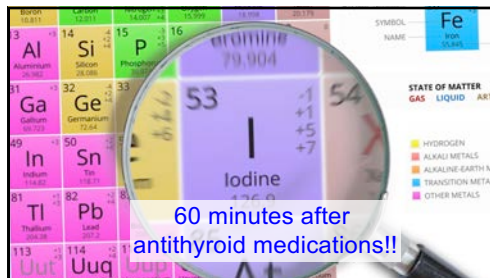
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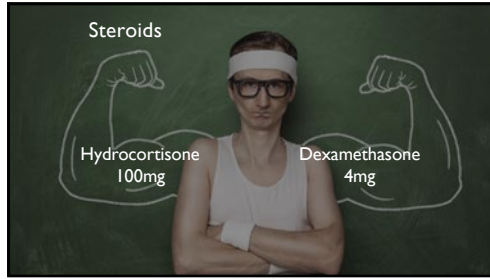
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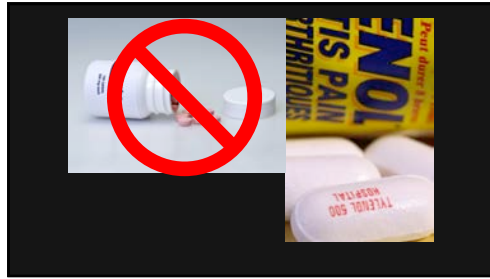
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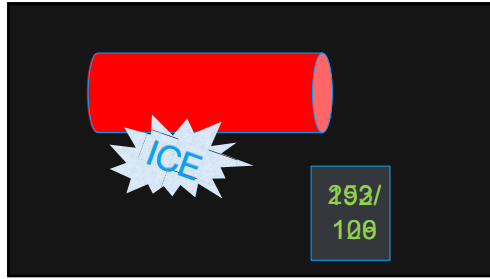
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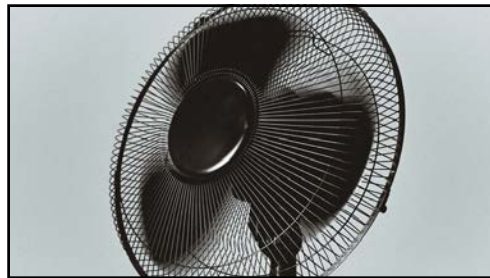
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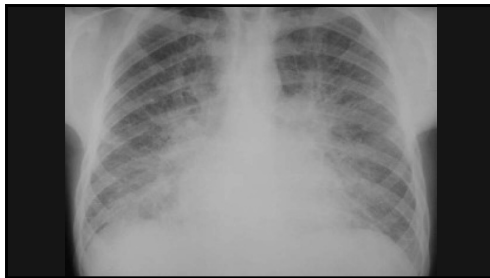
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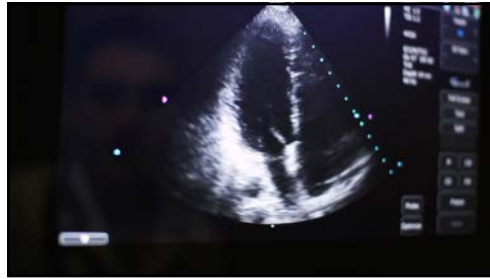
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Low Contractility	High Contractility
<ul style="list-style-type: none">• Treat like any other low output CHF• Diuretics• Afterload reduction• Preload reduction	<ul style="list-style-type: none">• Avoid preload and afterload reduction• Focus on systemic blockade• Diuretics are fine, if necessary

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Take Home Pearls

- Consider thyroid storm in patients with elevated vitals and AMS.
- Treat thyroid storm in a stepwise approach.
- Passive cooling and acetaminophen for hyperthermia. Benzos for agitation.
- Heart failure? Use your US to guide therapy.
- Don't forget to treat the stressor.

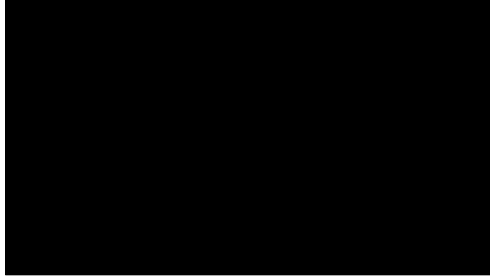
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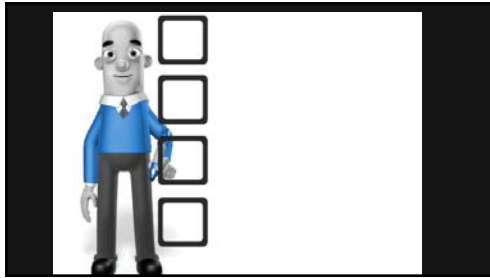
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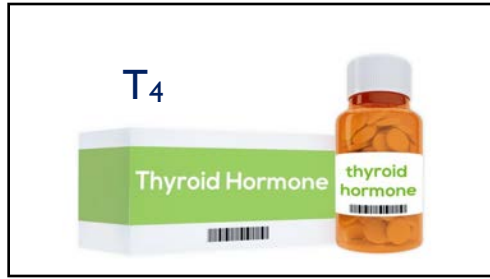
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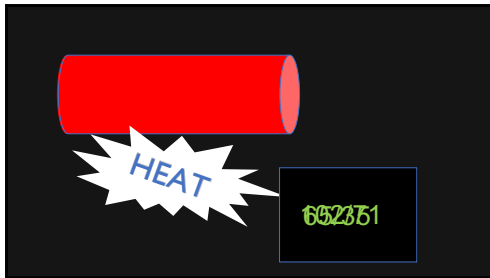
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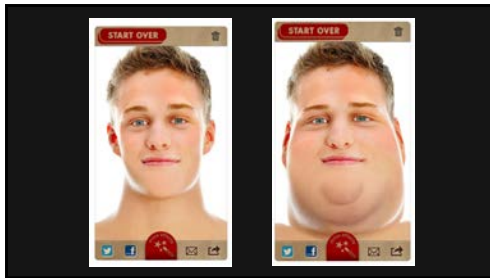
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Take Home Pearls

- Consider myxedema in patients with decreased vitals and altered sensorium.
- Consider dual thyroid replacement and administer after the stress dose steroids.
- Passive rewarming only so as to not precipitate circulatory collapse. Be careful with intubation.
- Don't forget about the stressor.

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