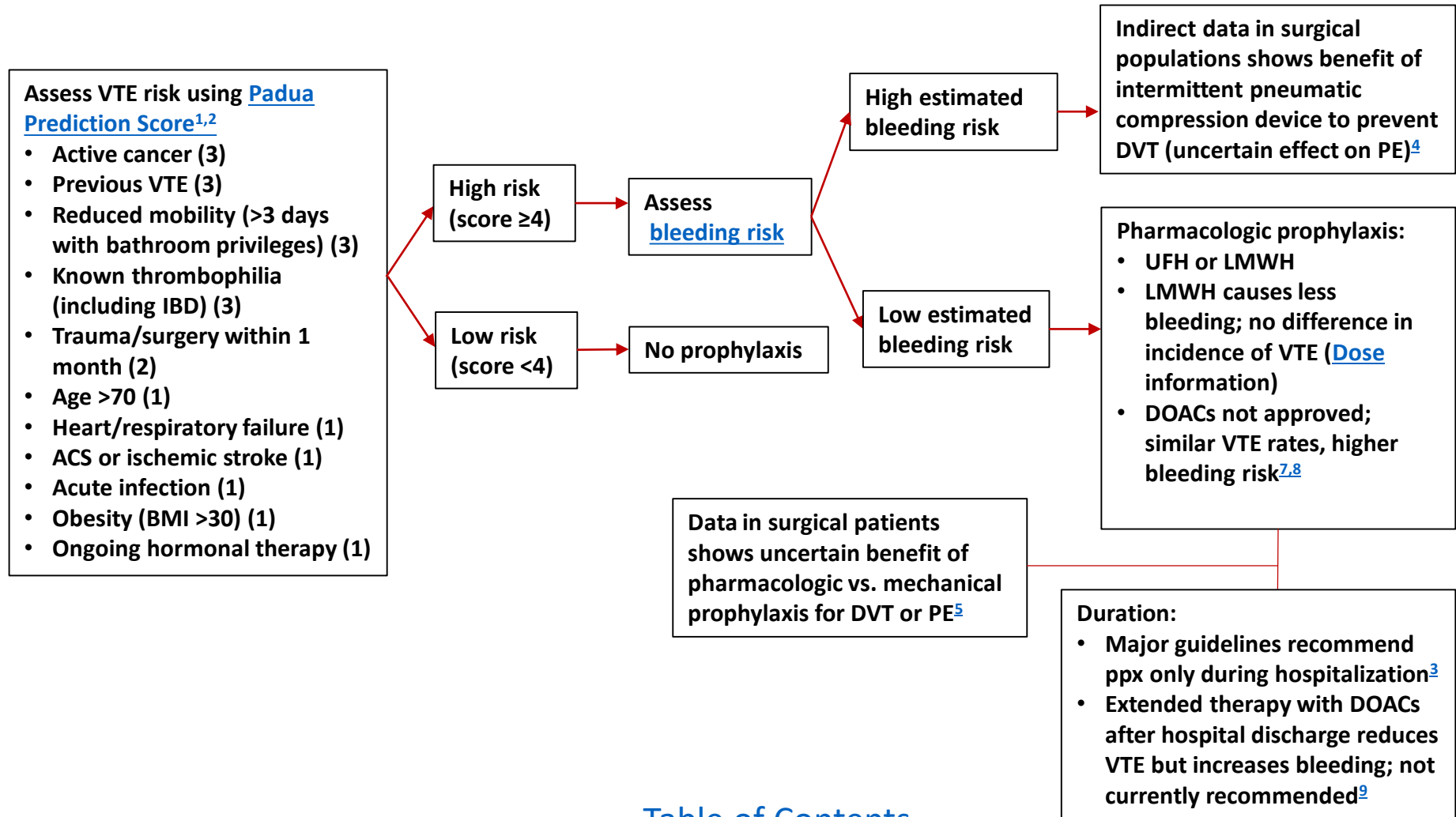


VTE prophylaxis

Updated: 9/5/2017

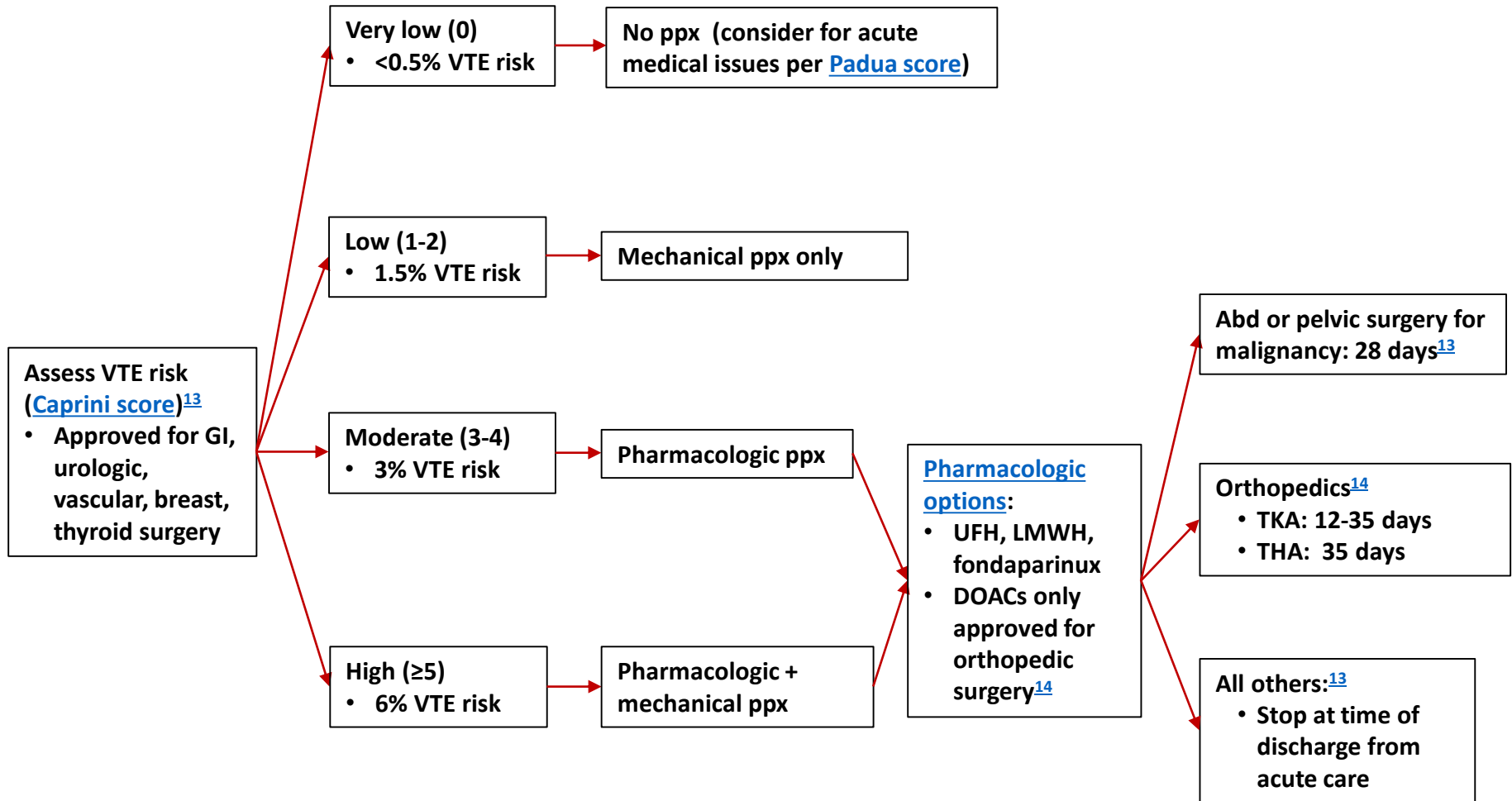
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Hospitalized, non-surgical patients



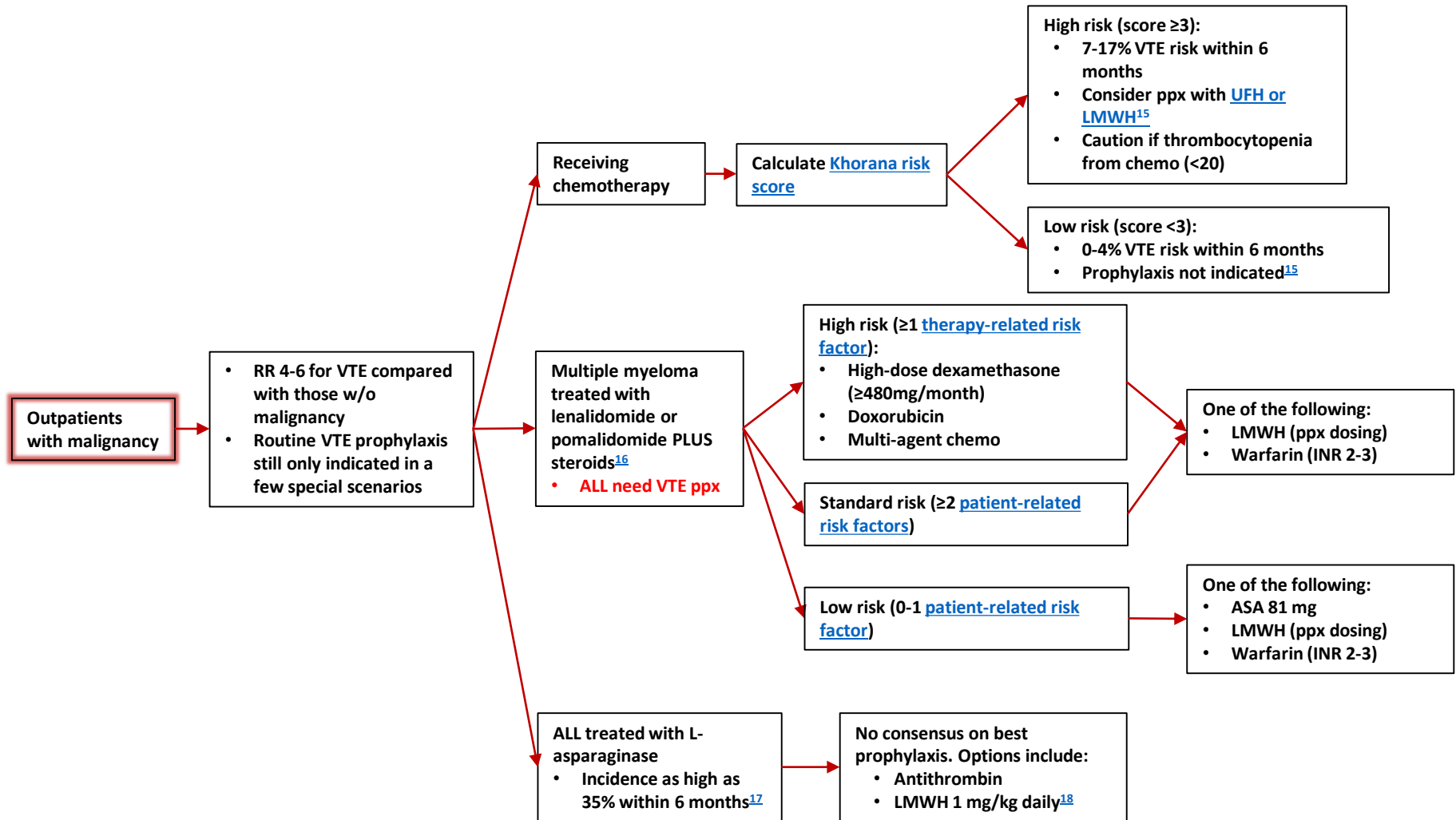
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Surgical patients



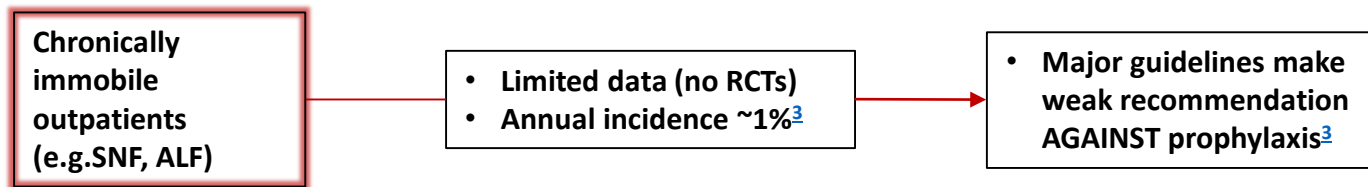
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Outpatients with malignancy



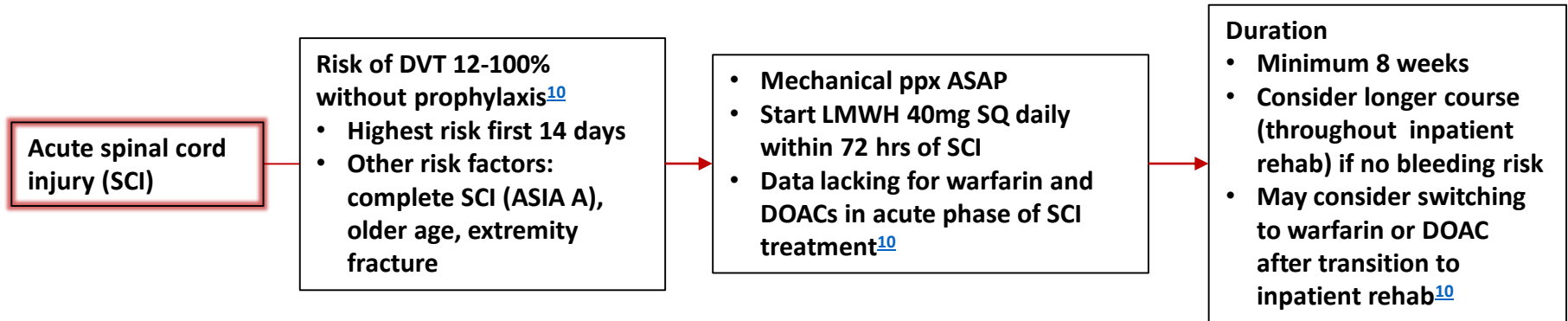
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Chronically immobile outpatients



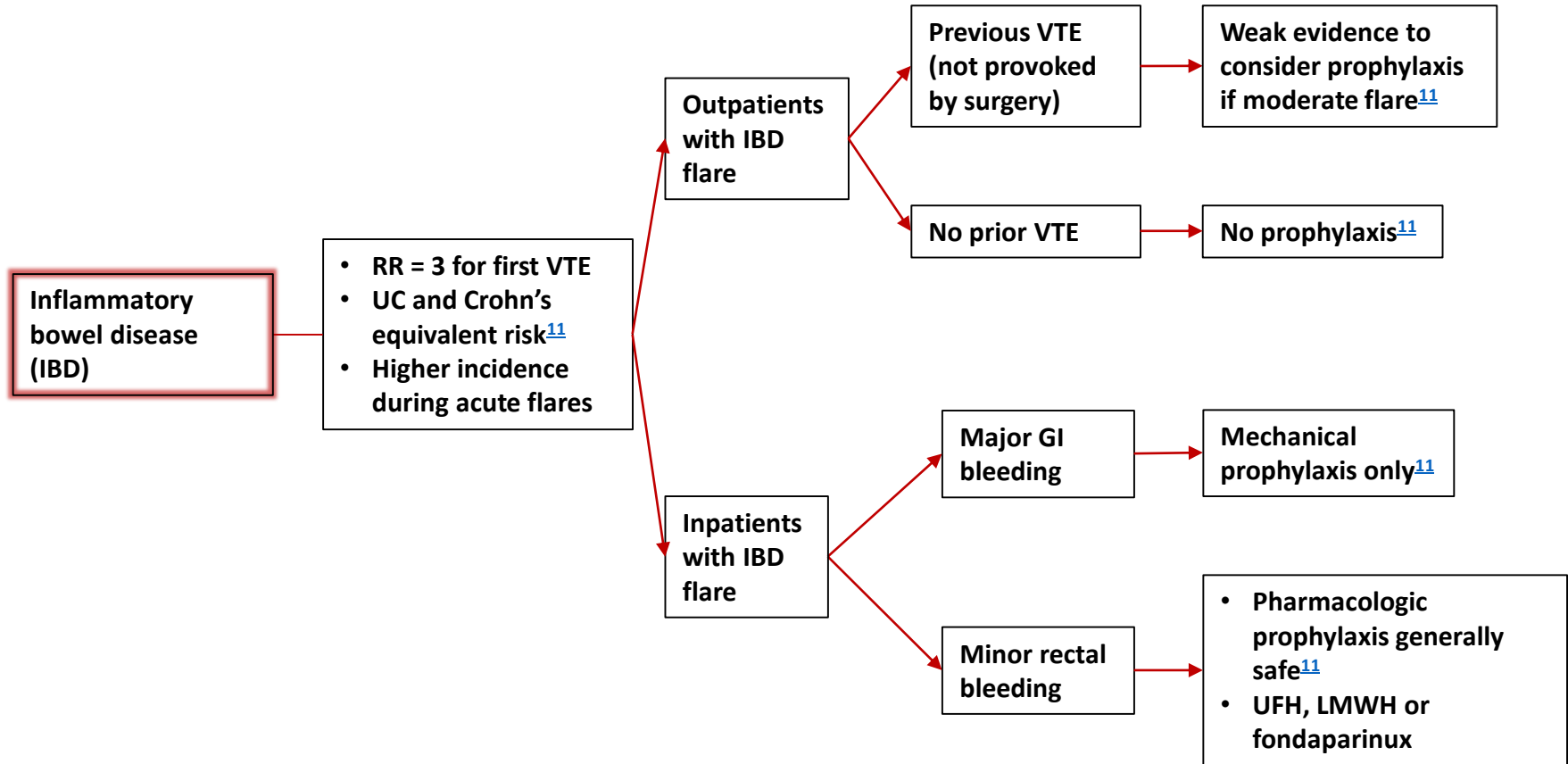
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Acute spinal cord injury

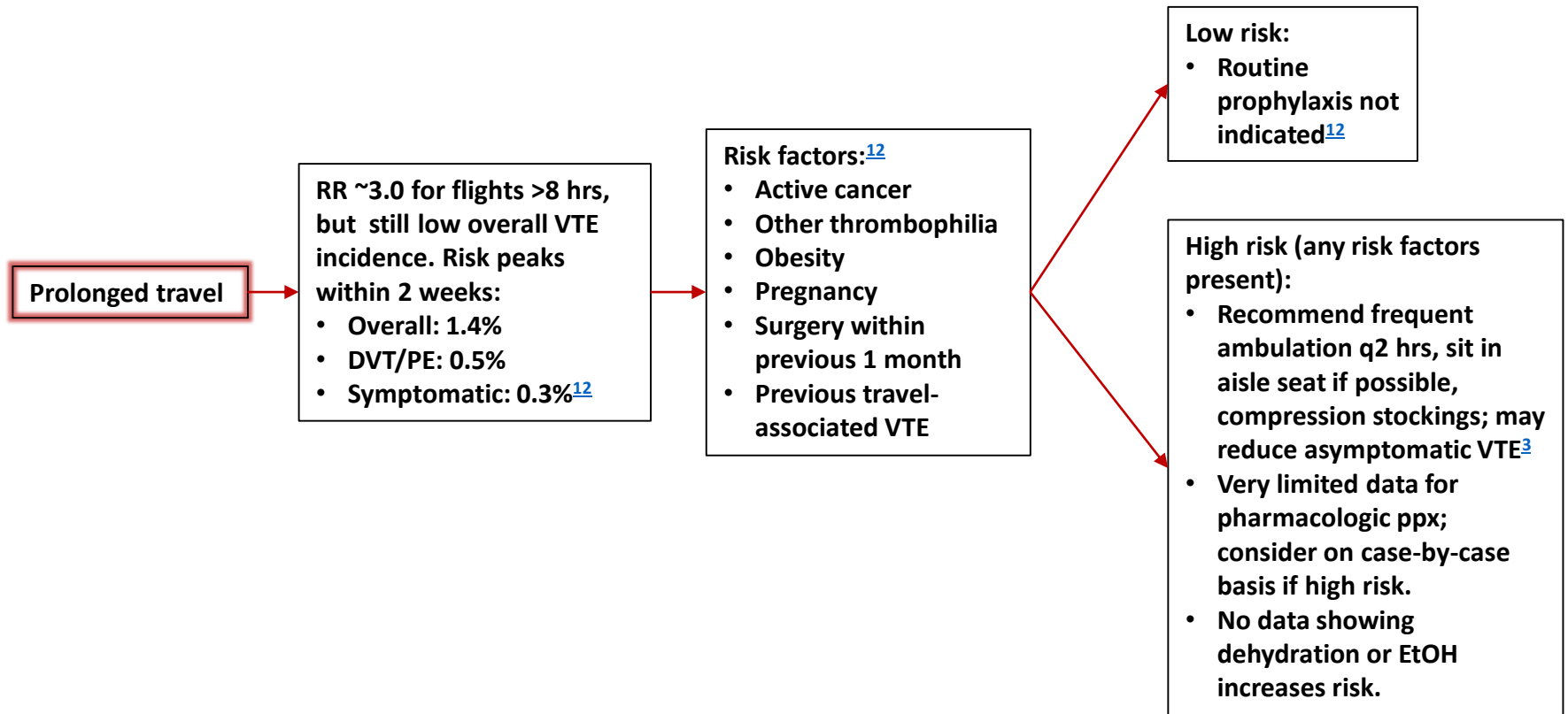


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Inflammatory bowel disease



Prolonged travel



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Prophylactic anticoagulant dosing in non-surgical patients

	LMWH	UFH	Fondaparinux
BMI <40 kg/m ²	40 mg subcutaneous every 24 hours	5000 Units subcutaneous every 8 to 12 hours ⁶	2.5 mg SQ daily *Avoid if wt <50 kg
BMI >40 kg/m ²	40 mg subcutaneous every 12 hours	5000 Units subcutaneous every 8 to 12 hours	2.5 mg SQ daily
Renal dysfunction (GFR <30 mL/min)	30 mg subcutaneous every 24 hours	5000 Units subcutaneous every 8 to 12 hours	Avoid use

⁶No difference between every 8 vs. every 12 hour dosing scheme

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Prophylactic anticoagulant dosing in surgical patients

	LMWH	UFH	Fondaparinux	Apixaban (Ortho only)	Rivaroxaban (Ortho only)	Dabigatran (hip replacement only)
BMI <40 kg/m ²	Non-ortho: • 40mg SQ daily Ortho: • 30 mg SQ q 12 hrs	5000 Units SQ q 8 to 12 hrs	*2.5 mg SQ daily *Avoid if wt <50 kg	2.5 mg BID • TKA: 12 days • THA: 35 days	10 mg daily • TKA: 12 days • THA: 35 days	220 mg daily • 14-35 days
BMI >40 kg/m ²	Same as above; consider 30% dose increase	5000 Units SQ q 8 to 12 hrs	2.5 mg SQ daily	*2.5mg BID • TKA: 12 days • THA: 35 days *These patients were excluded from trials	*10 mg daily • TKA: 12 days • THA: 35 days *These patients were excluded from trials	*220 mg daily • 14-35 days *These patients were excluded from trials
Renal dysfunction (GFR <30 mL/min)	30 mg SQ daily	5000 Units SQ q 8 to 12 hrs	Avoid use	*2.5mg BID • TKA: 12 days • THA: 35 days *These patients were excluded from trials	Avoid use	*220 mg daily • 14-35 days *These patients were excluded from trials

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Bleeding risk calculators

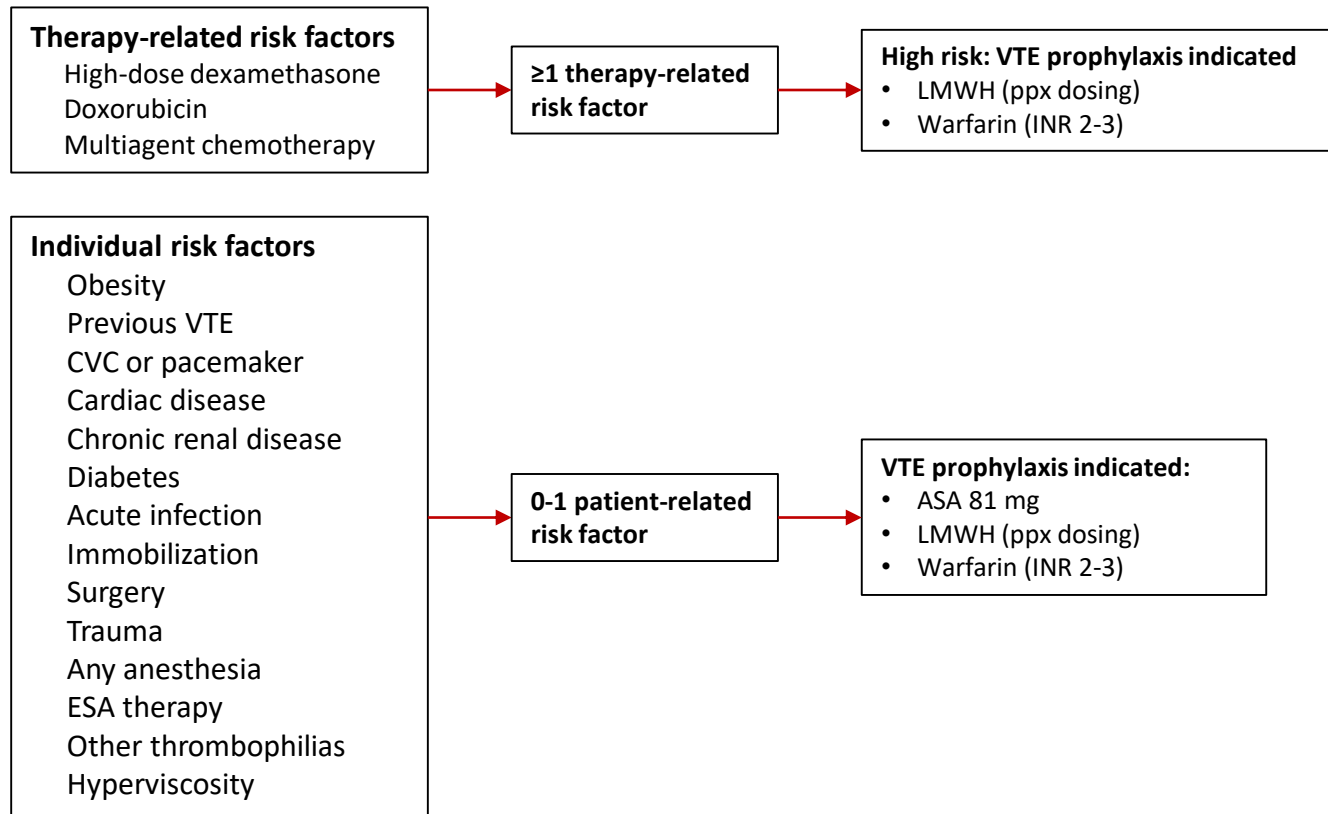
Important notes:

- No bleeding risk tools have been validated for VTE treatment, only for prophylaxis and atrial fibrillation
- Observational studies suggest net clinical benefit of anticoagulation even with very high bleeding risk
- No RCTs exist demonstrating benefit of *withholding* anticoagulation based on high bleeding risk

HAS-BLED (atrial fibrillation) 1 point each	IMPROVE (VTE prophylaxis for inpatients)
HTN (SBP >165 mmHg)	Active gastroduodenal ulcer (4.5)
Renal disease (ESRD, Cr >2.26, or transplant)	Bleeding within past 3 months (4)
Liver disease (cirrhosis, AST/ALT >3x upper limit, Tbili >2x upper limit)	Admission platelets < 50 x10 ⁹ cells/L (4)
History of stroke	Hepatic failure (INR >1.5) (2.5)
History of bleeding or predisposition to bleeding	ICU/CCU stay (2.5)
Labile INR	Central venous catheter (2)
Alcohol or illicit drug use	Rheumatic disease (2)
Taking antiplatelet or NSAID	Active malignancy (2)
Age > 65	Age: 40-84 (1.5), ≥ 85 (3.5)
	Renal disease: GFR 30-59 mL/min (1), <30 mL/min (2.5)
High risk	≥ 3
	≥ 7

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Myeloma VTE risk factors



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VTE risk in patients with malignancy (Khorana score)

[Online calculator](#)

Risk factor	Score
Site of cancer Very high risk: Stomach, pancreas	2
High risk: lung, lymphoma, bladder, testicular, gynecologic	1
Pre-chemotherapy platelet count > 350 x 10 ⁹ /L	1
Pre-chemotherapy Hgb < 10 g/dL or use of ESA	1
Pre-chemotherapy WBC > 11 x 10 ⁹ /L	1
BMI ≥ 35	1

Total score

< 3: No need for pharmacologic prophylaxis

≥ 3: Consider pharmacologic VTE prophylaxis

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VTE risk stratification in surgical patients (Caprini score)

[Online calculator](#)

1 point each	2 points each	3 points each	5 points each
Age 41-60	Age 61-74	Age >74	Stroke <1 mo ago
Minor surgery	Arthroscopic surgery	Personal or family hx of VTE	Elective arthroplasty
Serious lung disease (inc. abnormal PFTs or PNA <1 mo. ago)	Major open surgery > 45 min	Thrombophilias: Factor V Leiden, prothrombin gene mutation, APLA, HIT, other congenital thrombophilias	Hip, pelvis, leg fracture
Swollen legs or varicose veins (1 point each)	Laparoscopic surgery > 45 min		Acute spinal cord injury
Pregnant/6 weeks postpartum	Malignancy		
OCP or HRT use	Bedrest >72 hrs		
Unexplained/recurrent spontaneous abortion	Immobilizing plaster cast		
Sepsis <1 mo ago	Central venous catheter		
Heart failure (<1 mo ago)			
Inflammatory bowel disease			
BMI >25			
Medical patient at bed rest			

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