

Upper Gastro-Intestinal Bleeding

(Upper GI Bleeding) UGIB

Is bleeding proximal to:

“Ampulla of Vater or (precisely) Ligament of Treitz”

(50% of all GI Bleeding)

Causes of Acute Upper GI Bleeding

<u>Cause</u>	<u>Frequency (%)</u>
Peptic Ulcer	40
Esophagitis	10
Erosive disease	6
Other	6
Mallory-Weiss	5
Varices	5
Neoplasm	4
No cause identified	24

Adapted from Dallal HJ, Palmer KR. *BMJ*. 2001;323:1115.

UPPER GI BLEEDING

Signs and Symptoms

- Hematemesis
- Melena
- Dizziness
- Upper Abd. Pain
(Peptic ulcer disease)
- Odynophagia, GERD, dysphagia (Esoph Ulcer)
- Pallor
- Hypotension / Orthostasis
- Dysphagia, early satiety, weight loss, cachexia
(Malignancy)
- Jaundice and other stigmata of chronic liver diseases
(Variceal Bleeding)

Symptoms that suggest the bleeding is severe include orthostatic dizziness, confusion, angina, severe palpitations, and cold/clammy extremities.

PMHx

- **Varices or portal hypertensive gastropathy**
(liver disease or excess alc use)

- **Angiodysplasia (AVM)**
(renal disease, aortic stenosis, or hereditary hemorrhagic telangiectasia)

- **Malignancy**
(smoking, excess alcohol use, or *H.pylori* infection)

- **Aorto-enteric fistula**
(abdominal aortic aneurysm or an aortic graft)

- **Marginal ulcers**
(anastomotic site ulcer)
(gastroenteric anastomosis)

- **Peptic ulcer disease (PUD)**
(*H. pylori*) infection, (NSAIDs) use, antithrombotic use, or smoking

Comorbid Illnesses (Influence management)

- Make patients more susceptible to adverse effects of **anemia**:

(CAD, pulmonary disease).

Such patients may need to be maintained at **higher Hb levels** than patients without these disorders.

- Predispose patients to **volume overload** in the setting of vigorous fluid resuscitation or blood transfusions:

(renal disease, heart failure).

Such patients may need more **invasive monitoring** during resuscitation.

- Result in bleeding that is **more difficult to control**:

(coagulopathy, thrombocytopenia, significant hepatic dysfunction). Such patients may need **additional hemostatic therapies**.

- Predispose to **aspiration of GI contents** into the lungs:

(dementia, AMS, hepatic encephalopathy).

Endotracheal intubation should be considered in such patients.

Medication History

- **Predispose to peptic ulcer** formation, aspirin and other NSAIDs, including COX-2 inhibitors.
- Are associated with **pill esophagitis**.
- **Increase risk of bleeding**, anticoagulants (warfarin & the direct oral anticoagulants) and antiplatelet agents (P2Y12 inhibitors and aspirin).
-
- May alter the clinical presentation (**Color**), bismuth, charcoal, licorice, and iron, which can turn the stool black.

If the patient is taking antiplatelet medications because of a recent (less than one year) vascular stent placement or acute coronary syndrome, when possible, a cardiologist should be consulted prior to stopping the medications.

Management of Acute GI Bleeding

Initial Management

IV Access

Hemodynamic Assessment

CBC, PT/ PTT, LFTs, electrolytes/creatinine

Type and Cross

Resuscitation Measures

NPO

Assess Initial Risk

- Age >60 years
- Comorbidity
- Low systolic blood pressure
- Shock
- Ongoing bleed
- Prolonged PT
- Erratic mental status

High Risk

Low Risk

ICU/Surgical consult

Med./Surg. Ward

Endoscopy ± Hemostasis

General Approach to the patient with Acute Upper GI Bleeding

- Guiding Principles
 - Restoration or maintenance of hemodynamic stability
 - Blood products if needed
 - Nasogastric lavage
 - Endoscopy with hemostasis if indicated
 - Antisecretory medications
 - Surgery if necessary

Hemodynamics

Orthostasis is the most accurate non-invasive indicator of severity of Blood loss $\approx 20\%$

Orthostasis = \downarrow Sys BP >20

or

\downarrow Dias BP >10

or

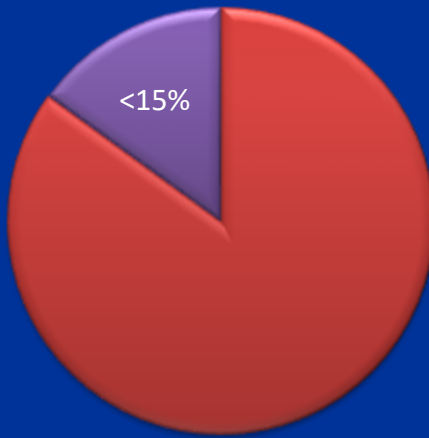
\uparrow HR >15

w/in 3 minutes of standing

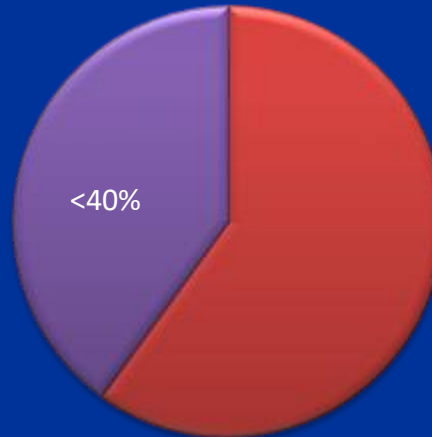
Physical Examination

“Signs of Hypovolemia”

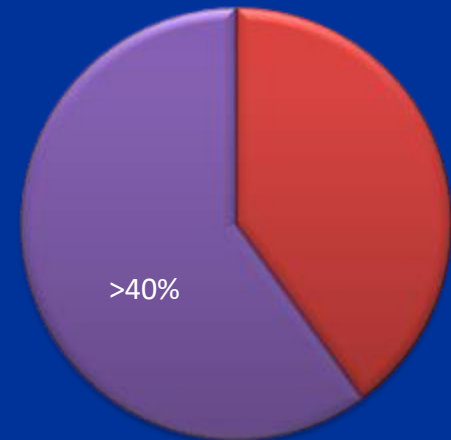
**Resting
tachycardia**



Orthostasis



**Supine
Hypotension**



1) Hemodynamic Stabilization:

- **Adequate IV access**
- **Volume resuscitation**

2) NPO

3) NGT Lavage

(NO proven Benefit)

(15% False Θ)

BLOOD TRANSFUSION

4) Transfuse PRBCs if: $Hb \leq 7g/dL$

(Hct: $<21\%$)

($Hb \leq 9-10g/dL$

(Hct: $<30\%$) in CAD)

or

Shock

Thrombocytopenia

Patients with critical or life-threatening bleeding and a low platelet count ($<50,000$) should be transfused with platelets.

Endoscopy can be performed if the platelet count is $>20,000$, though if the patient is suspected to have active bleeding, it is recommended to raise the platelet count to $>50,000$ prior to endoscopy.

5) co-morbidities assessment:

- **Stabilization of other active co-morbidities before EGD**

(Rarely, massive bleeding cannot be stabilized adequately before EGD).

- **Intubation for airway protection should be considered w/ [(ongoing hematemesis) or (active bleeding w/ ↓ CNS or loss of the gag reflex)].**

6) Risk assessment

(see below)

Oliver Blatchford



Risk Assessment

Blatchford Score

Blatchford bleeding score Predicts: Need of EGD/PRBC	BUN	18-22	2	Hb	M	F	Sys BP	Others					
		22-28	3	12-13	1	-	100-110	1	HR	Two Blacks		Two Failures	
		28-70	4	10-12	3	1	90-100	2	≥100	Stool (Melana)	Out (Syncope)	Liver	Cardiac
		≥70	6	<10	6		<90	3	1	1	2	2	2
		Score	• scores ≤2: ↓ risk ± D/C (OP management) • score ≥6: >50% require intervention (EGD/PRBCs)										

Timothy Rockall



Upper GI Haemorrhage Risk Assessment

The Rockall Score is a commonly used scoring system to assess severity and risk of UGI haemorrhage. The following table indicates the way scoring is calculated. Reference: **Rockall TA. GUT 1996; 38: 316 - 321.**

Variable	Score			
	0	1	2	3
Age	<60 years	60 - 79 Years	>79years	
Shock	'No Shock' Systolic BP>100 Pulse < 100	'Tachycardia' Systolic BP=100 Pulse > 100	'Hypotension' Systolic BP<100	
Co-morbidity	No Major co-morbidity		Cardiac Failure Ischaemic heart disease Any Major co-morbidity	Renal Failure Liver Failure Disseminated malignancy
Diagnosis	Mallory-Weiss tear No lesion identified & no SRH	All other diagnoses	Malignancy of upper GI tract	
Major stigmata of recent haemorrhage	None or Dark spots only		Blood in upper GI tract Adherent Clot Visible or spurting vessel	

Where SRH is the abbreviation for Stigmata of recent haemorrhage. The maximum additive score prior to diagnosis is 7. The maximum additive score following diagnosis is 11. There is a positive linear correlation of Rockall Score and Mortality.

Rockall Score (points)	Mortality
3	3%
4	6%
5	12%
6	17%
7	27%
8	40%

Prokinetics prior to EGD

(Erythromycine: 250mg IV (3mg/kg)
30-60min before EGD

Somatostatin and its analogs

- Somatostatin causes splanchnic vasoconstriction and decreased portal inflow.
- Octreotide is a long-acting analog of somatostatin.
- Octreotide is given as a 50 mcg bolus followed by a continuous infusion of 50 mcg per hour and is also continued for two to five days.

Terlipressin

- Terlipressin (triglycyl lysine vasopressin) is a synthetic analog of vasopressin that is released in a slow and sustained manner.
- Terlipressin is administered at an initial dose of 2 mg IV every four hours and can be titrated down to 1 mg IV every four hours once hemorrhage is controlled. It is continued for two to five days following cessation of bleeding.

Antibiotic prophylaxis

- Patients with cirrhosis who present with upper gastrointestinal bleeding are given prophylactic antibiotics, preferably before endoscopy

Initiate IV PPI infusion

(Bolus 80mg → 8mg/h) (to maintain)

↓ need for EGD ttt

(no change in: Re-Bleeding, need to transfuse, need for Sx, or Mortality)

↓ high risk stigmata & need for EGD ttt

Timing of endoscopy

Patients with UGIB should generally undergo endoscopy within **24 h** of admission, following resuscitative efforts to optimize hemodynamic parameters and other medical problems

EGD

Urgent (Only when Stable)

EGD w/in 24hrs (↓ transfusion need, emergent Sx, rebleeding & Hospital stay)

(No change in mortality or ↓ in the need for Sx if EGD done w/in 6hrs) specially if: Ca, cirrhosis, hematemesis, shock, Hb<8g/dL.

Timing of endoscopy

Patients with higher risk clinical features
(e.g., tachycardia, hypotension, bloody emesis or
nasogastric aspirate in hospital)



Endoscopy within **12 h** may be considered
to potentially improve clinical outcomes

Gastric ulcers presenting with acute upper GI bleeding

spurt



Visible vessel



adherent clot



Spots
Dots

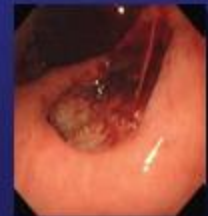
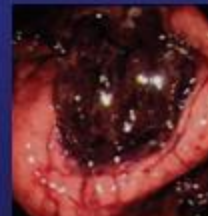


Forrest Classification

Stigmata of hemorrhage	Forrest classification
Active spurting bleeding	IA
Active oozing bleeding	IB
Non-bleeding visible vessel	IIA
Adherent clot	IIB
Flat pigmented spot	IIC
Clean base	III

GI Bleed: Risk of Rebleeding

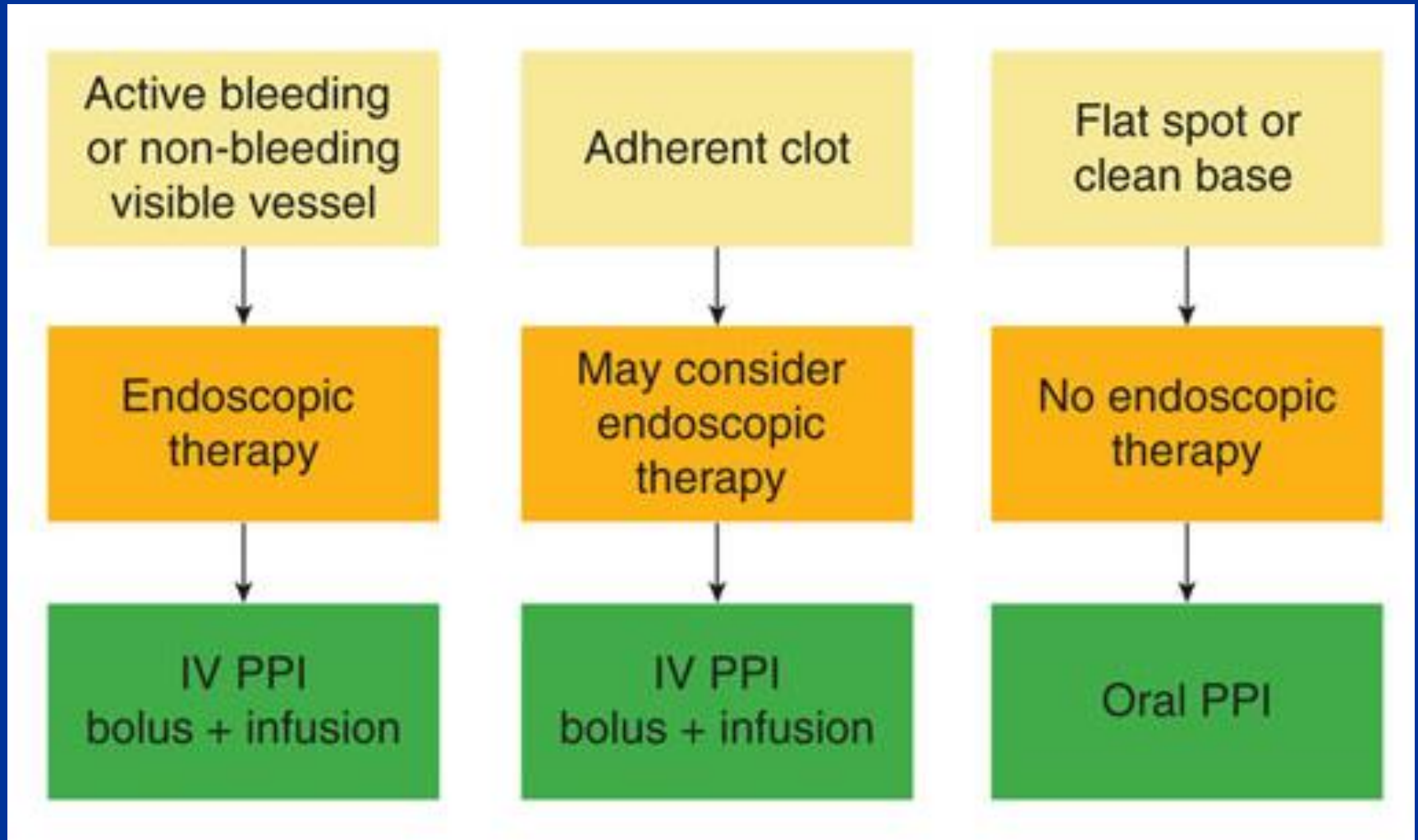
Clean Base Flat Spot Adherent Clot NBVV* Active Bleed



Prevalence (%)	42	20	17	17	18
Rebleeding risk (%)	5	10	22 †	43 †	55†
Mortality (%)	2	3	7	7	11

*Nonbleeding visible vessel. † Endoscopic therapy recommended.

Management





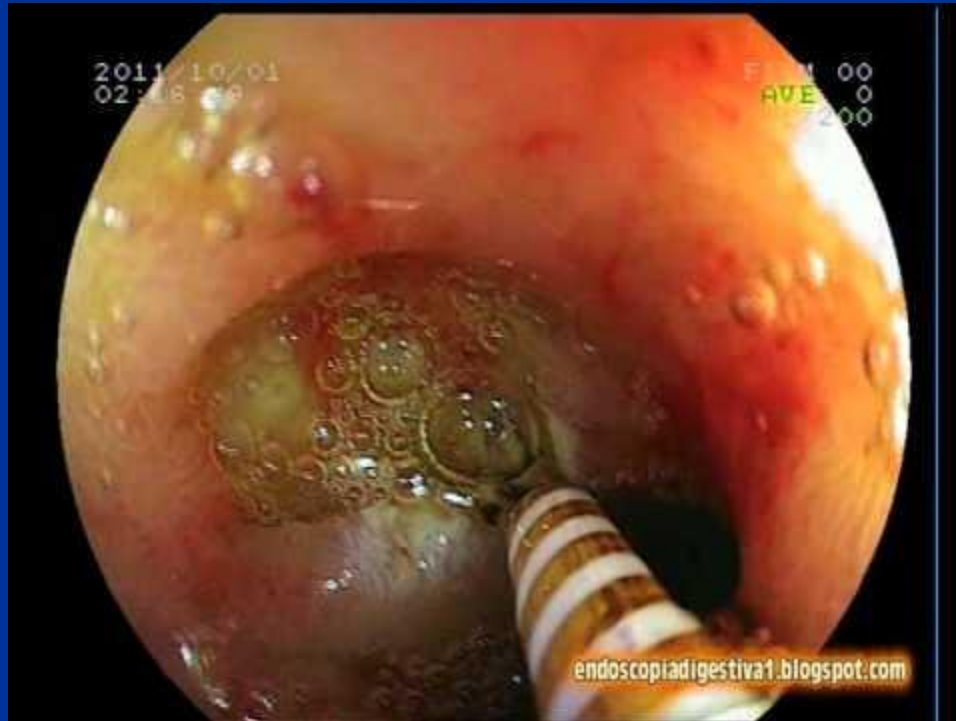
DR. MURRA

360
ROTATION



REPOSITIONABLE

SHORT
STEM

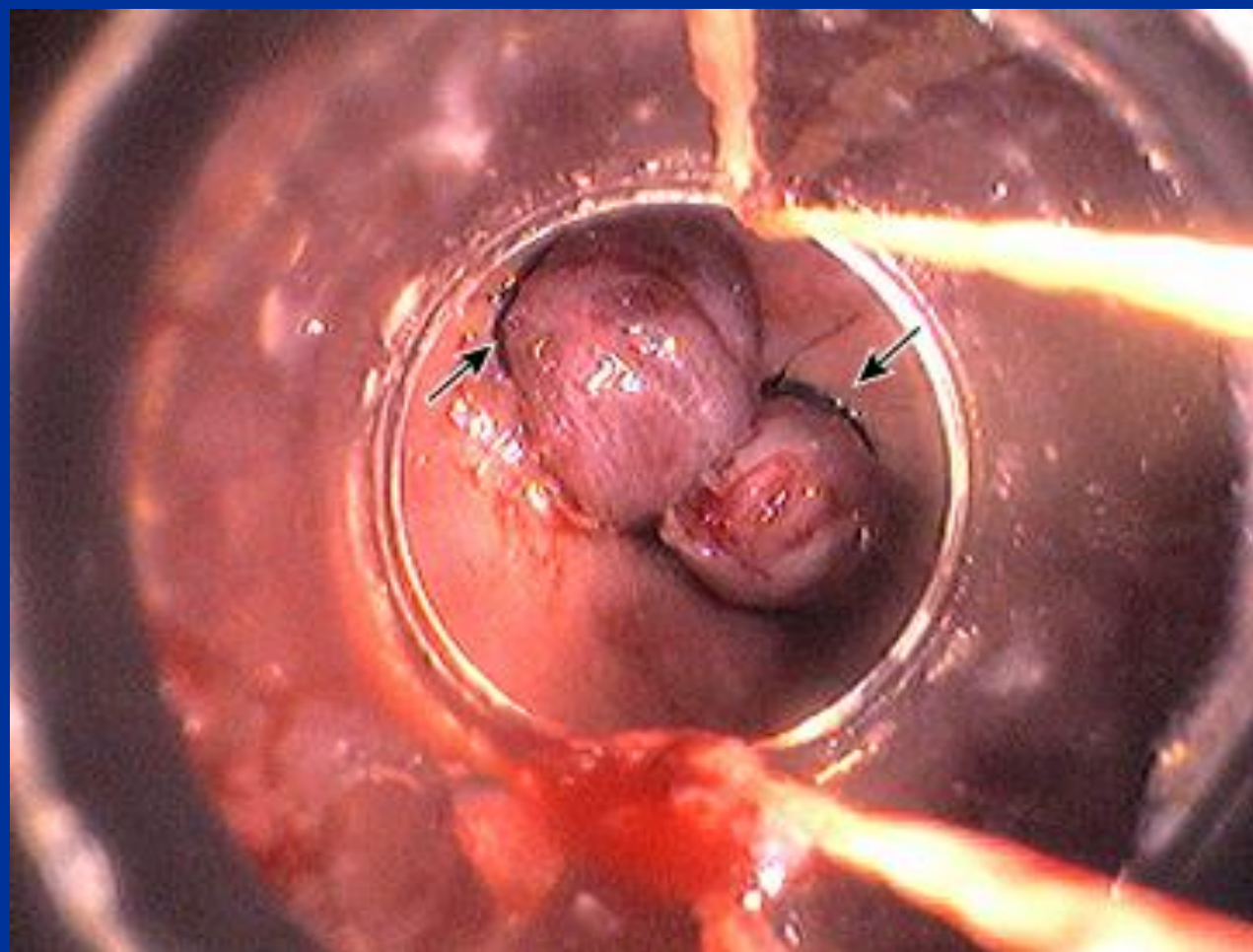


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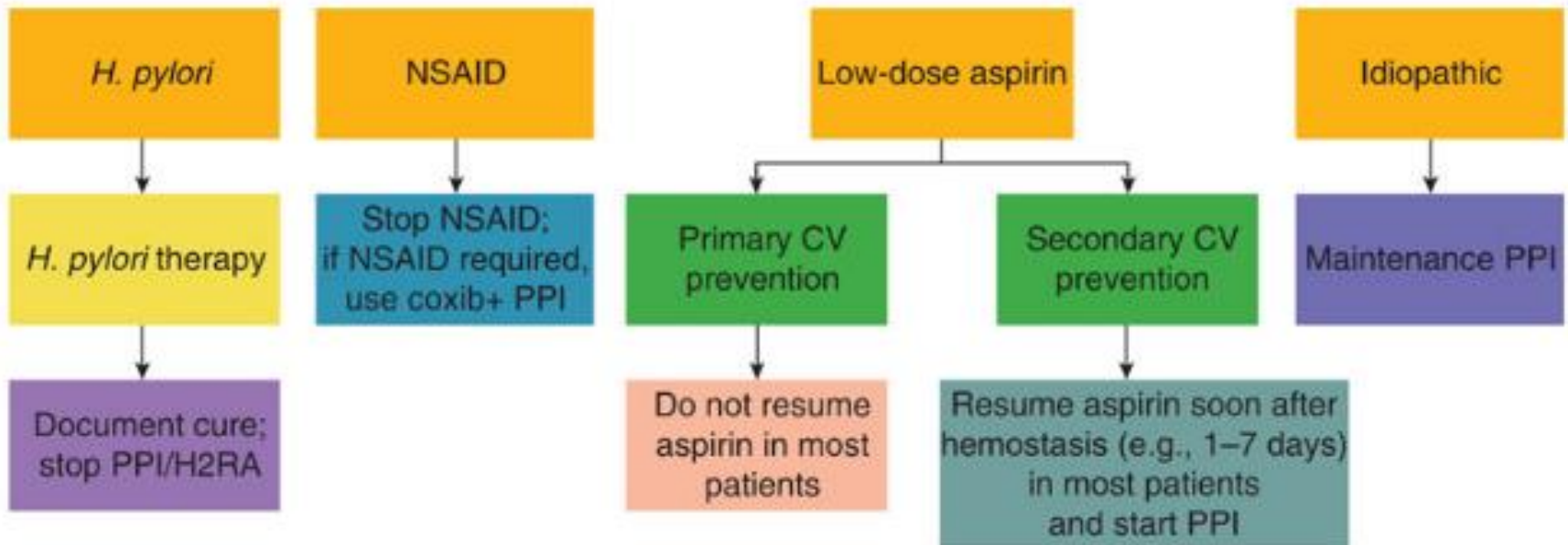


Post Hemostasis

Drug	Action
ASA	Resume after 1-3 d (no later than 7 d) (2ry Prv Only)
Clopedogril	Resume after 1-3 d (no later than 7 d) (2ry Prv Only)
Coumadin	Resume same afternoon
LMWH	Resume after 12 h (in High Risk)
SSRIs	Consider Switching to other Non-SSRI Anti-Depressant + PPI & D/C NSAIDs

High Risk for Thrombo-Embolic events:

- ♦ **MVR**
- ♦ **Bio-valve <3M**
- ♦ **VTE <3M**
- ♦ **AF + Prosthetic**
- ♦ **AF + MS**
- ♦ **Thrombophilia Synd**



Repeat endoscopy

Routine second-look endoscopy, in which repeat endoscopy is performed 24 h after initial endoscopic hemostatic therapy, is not recommended.

Unless:

- There is a clinical evidence of recurrent bleeding.
- If further bleeding occurs after a second endoscopic therapeutic session, surgery or interventional radiology with transcatheter arterial embolization is generally employed (Conditional recommendation).