Simulation Scenario Template

Section 1: Case Summary

Scenario Title:	Code Red Belly – Nightmare SIM
Keywords:	UGIB, Cirrhosis, variceal hemorrhage, hemorrhagic shock, MTP, difficult airway, balloon tamponade, Minnesota tube, Blakemore, ICU
Brief Description of Case:	A **72-year-old** male with **alcohol-related cirrhosis** presents with **profuse hematemesis** and **shock** and **hypoxia**. Learners must: lead a high-acuity resuscitation in a community based limited resource setting, start evidence-based variceal-bleed adjuncts, activate definitive therapy, and when bleeding remains uncontrolled, perform **Minnesota tube placement** using a checklist-driven approach.

Goals and Objectives	
Educational Goal:	Expose senior learners and physicians to the **time-critical resus + team leadership** required for massive UGIB in a patient with liver disease, including escalation to **balloon tamponade** as a bridge to endoscopic or IR therapy.
Objectives: (Medical and CRM)	**CRM** 1. Lead an interprofessional team through a complex resuscitation using role clarity, closed-loop communication, and frequent summaries 2. Call for early help and coordinate patient transfer to higher level of care **Medical** 1. Recognize likely **variceal UGIB** in cirrhosis and initiate early adjuncts: vasoactive agent + antibiotics + early definitive therapy activation. 2. Resuscitate **hemorrhagic shock** (balanced blood products, minimize crystalloid, follow local MHP). 3. Intubate and manage a **soiled airway** 4. Escalate to **Minnesota tube** balloon tamponade when bleeding persists despite resuscitation + vasoactive therapy and definitive therapy is activated.
EPAs Assessed:	TBD

Simulation Scenario Template

Learners, Setting and Personnel				
Target Learners:	☐ Junior Learners	☒ Senior Learners	☐ Staff	
	☒ Physicians	☐ Nurses	☐ RTs	☐ Inter-professional
	☐ Other Learners:			
Location:	☒ Sim Lab	☐ In Situ	☐ Other:	
Recommended Number of Facilitators:	Instructors: 1-2 (one RN support, one provides physical exam findings)			
	Sim Actors: 2 (acts as wife, pt, and EHS)			
	Sim Techs: 1			

Scenario Development	
Date of Development:	10/02/2026
Scenario Developer(s):	Dr. Ilyana Voth, Dr. Jeanne MacLeod, Dr. Scott Bell
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Last Revision Date:	22/05/2026
Revised By:	Dr. Ilyana Voth
Version Number:	2.1

Section 2A: Initial Patient Information

<table>
<tr><th colspan="6">A. Patient Chart</th></tr>
<tr><td colspan="3">Patient Name: George I. Bond</td><td>Age: 62</td><td>Gender: M</td><td>Weight: ~85kg</td></tr>
<tr><td colspan="6">Presenting complaint: Vomiting blood</td></tr>
<tr><td>Temp: 36.4</td><td>HR: 132</td><td>BP: 78/45</td><td>RR: 26</td><td>O_2Sat: 92</td><td>FiO_2: RA</td></tr>
<tr><td colspan="3">Cap glucose: 4.8</td><td colspan="3">● GCS: 9 (E V M) 2 - 3 - 4) (eyes to pain only, inappropriate words, withdraws to pain)</td></tr>
<tr><td colspan="6">Triage note:

Found lying in bed by his wife, actively vomiting large volumes of bright red blood, very confused. Ongoing hematemesis en-route, active suctioning. The patient appears pale/diaphoretic, altered. Approximately 500mL blood on scene. Scoop and go by EHS.</td></tr>
<tr><td colspan="6">Allergies: NKDA</td></tr>
<tr><td colspan="3">Past Medical History:
- multiple admissions related to alcohol withdrawal, gastritis, and delirium tremens.
- alcohol-related cirrhosis (Child-Pugh C)
- ascites, no history of SBP
- one previous UGIB with known esophageal varices (banded 1 year ago)</td><td colspan="3">Current Medications:

● carvedilol
● spironolactone
● lactulose

no anticoagulants</td></tr>
</table>

Section 2B: Extra Patient Information

<table>
<tr><th>A. Further History</th></tr>
<tr><td>Include any relevant history not included in triage note above. What information will only be given to learners if they ask? Who will provide this information (mannequin's voice, sim actors, SP, etc.)?
*Facilitator acting as Wife/EHS can provide this information if asked directly. *

- Last seen alert and oriented 1 hour previous while watching television with wife.
- Drinks 13-14 beers daily, and sometimes vodka. Robert has no intention of discontinuing his alcohol intake per wife.
- Uncertain if taking medications regularly
- Reported black stools last week. Having 3 soft, stools daily, no recent fevers, weight loss, or constitutional symptoms.
- Had similar bleeding episode one year ago, but not as bad. He had a procedure done at that time.
- followed in community by a GI specialist for his "liver"
- There is no history of depression, suicide, or other drug use.
- EHS says there is no evidence of any toxic ingestions or pill bottles at bedside. House appeared in poor condition, many empty alcohol bottles and beer cans scattered across floors.</td></tr>
</table>

B. Physical Exam	
List any pertinent positive and negative findings	
Cardio: NS1S2, bilateral BP's normal	Neuro: No focal neurological deficits
Resp: AEEB, course crackles to RML area	Head & Neck: No abnormality, dentition is intact, no trauma sign
Abdo: Distended, non-tender, positive fluid shift, liver edge is palpable.	MSK/skin: Pale. No jaundice. There is stigmata of liver disease including spider angiomata and abdominal distension
Other: Pt does not follow commands, cannot test for asterixis.	

Section 3: Technical Requirements/Room Vision

A. Patient
☒ Mannequin *(specify type and whether infant/child/adult)*
☐ Standardized Patient
☐ Task Trainer
☐ Hybrid

B. Special Equipment Required

- Ducanto and Yankauer suctions
- Massive/Rapid Transfuser
- Airway Equipment
- Minnesota tube kit and UGIB checklist

C. Required Medications

- Ceftriaxone
- Pantoprazole
- Octreotide
- Norepinephrine
- Blood Products
- Fluids
- RSI meds (ketamine, rocuronium)
- ACLS medications

D. Moulage

Blood all over patient and bedding.

E. Monitors at Case Onset

☒ Patient on monitor with vitals displayed
☐ Patient not yet on monitor

F. Patient Reactions and Exam

Include any relevant physical exam findings that require mannequin programming or cues from patient (e.g. – abnormal breath sounds, moaning when RUQ palpated, etc.) May be helpful to frame in ABCDE format.

A: **initially patient airway intact, able to speak some words** and **actively vomiting**. The patient becomes progressively obtunded throughout case regardless of intervention and eventually loses airway control

B: **course sounds to right base of lung** and **increased respiratory rate**. No stridor or wheeze.

D**: initially some mumbled words but does not appropriately respond to questioning (confused/inappropriate words).** Becomes progressively obtunded throughout case regardless of intervention

Section 4: Sim Actor and Standardized Patients

Sim Actor and Standardized Patient Roles and Scripts	
Role	*Description of role, expected behavior, and key moments to intervene/prompt learners. Include any script required (including conveying patient information if patient is unable)*
Nurse/RT	● "Should we call overhead for MHP?" (if not activated by 2–3 min) ● "He's vomiting a lot—are we securing the airway?" ● "Should we give octreotide/ceftriaxone/pantoprazole?" (if missed) ● "Do you want me to get a balloon tamponade kit for hemorrhage control?" ● "I think we have a Minnesota Tube Checklist, should I get it?" ● "GI/IR/PTN is on the line, do you want to talk to them?"
Wife	"I can't believe this is happening again!" (if no patient details or history is taken)

Section 5: Scenario Progression

Scenario States, Modifiers and Triggers				
Patient State/Vitals	Patient Status	Learner Actions, Modifiers & Triggers to Move to Next State		Facilitator Notes
1. Baseline State Rhythm: Sinus HR: 132 BP: 78/45 RR: 26 O_2SAT: 92% RA T: 35.6°C GCS: 9	*The patient is confused, mumbling some words. Actively vomiting large volumes blood. Maintains eyes closed unless painful stimuli is applied.*	Expected Learner Actions ☐ Assign roles, call for help (RT, additional nurses) ☐ Provides active ongoing suctioning ☐ High flow or NP O2 (no mask) ☐ Place 2 large bore IV (at least 18G) ☐ Activate local MHP or 2U O+ PRBC start, rapid transfuser ☐ Ceftriaxone 2g IV ☐ Pantoprazole 80mg IV bolus ☐ Octreotide 50ug IV bolus	Modifiers *If blood is started, transient BP bump to ~90/55, HR ~120* *Patient will deteriorate to lower GCS even if all interventions are done.* Triggers *For progression to next state, all meds and blood are ordered.*	*Note that TXA is NOT advised in UGIB and providers should prioritize blood instead of fluids,* *Nursing may prompt to give UGIB bundle meds if not given* *Labs and x-ray are not available in this stage.*
2. Deterioration Rhythm: Sinus HR: 140 BP: 65/40 RR: 10 O_2SAT: 88% on O2 GCS: 6 (1- no eyes, 1- no words, 4 - withdraw to pain)	*No longer responding or vomiting. Blood begins to pool in mouth when/if reassessed.*	Expected Learner Actions ☐ Escalate to MHP (if not already done) ☐ Prepare for intubation ☐ Initiate continuous and/or push-dose pressors peri-intubation ☐ Intubate using RSI	Modifiers *If high dose ketamine is administered, or if intubated without peri-intubation pressor support patient will go into PEA arrest. Pulses return after 1 dose ACLS epinephrine.* Triggers *- For progression to next state, RSI is completed*	*If they attempt Minnesota tube without protected airway, RN should challenge as checklist contraindicates proceeding with an unprotected airway.* *Nurse can suggest SALAD technique and hemodynamically toleratant RSI medications* *Show Appendix B airway.*

3. Post-Intubation HR: 130 BP: 90/55 RR: 12 on vent O_2SAT: 88% on O2 GCS: 6 (1- no eyes, 1- no words, 4 - withdraw to pain)	*Active ongoing passive hematemesis requiring continuous suctioning by RT. MHP is ongoing and being managed by support team. Patient has received 5U pRBC, 1U FPP so far.*	Expected Learner Actions ☐ Declare refractory variceal bleed ☐ Initiate continuous pressors ☐ Obtain UGIB checklist ☐ Notify GI/IR/PTN of patient requiring definitive treatment ☐ Obtain appropriate equipment for Minnesota tube	Modifiers *- Patient will become hypotensive to 60/40 if continuous pressors are not initiated* Triggers *MRP starts Minnesota tube placement*	*GI will request ERP insert the Minnesota tube because they are not immediately available* *RN may prompt use of Minnesota tube checklist*
5. Minnesota Tube Placement Vitals as previous	*Active ongoing passive hematemesis*	Expected Learner Actions ☐ Follows UGIB checklist in call-and-response format with RN support ☐ Head up to 30-35 deg ☐ MT is marked at diaphragm, inserted to mark ☐ Aspirate from gastric port ☐ inflate gastric balloon with 50mL air ☐ Obtain CXR to confirm balloon position ☐ Inflate balloon to 500mL when position is confirmed ☐ Apply traction using 1L NS bag weight ☐ Connect suction to both gastric and esophageal suction	Modifiers *When balloon is inflated to 500mL hematemesis discontinues and BP improves to 100/70, HR improves to 110* Triggers *Minnesota tube is confirmed and*	*Show Appendix B balloon confirmation xray.*

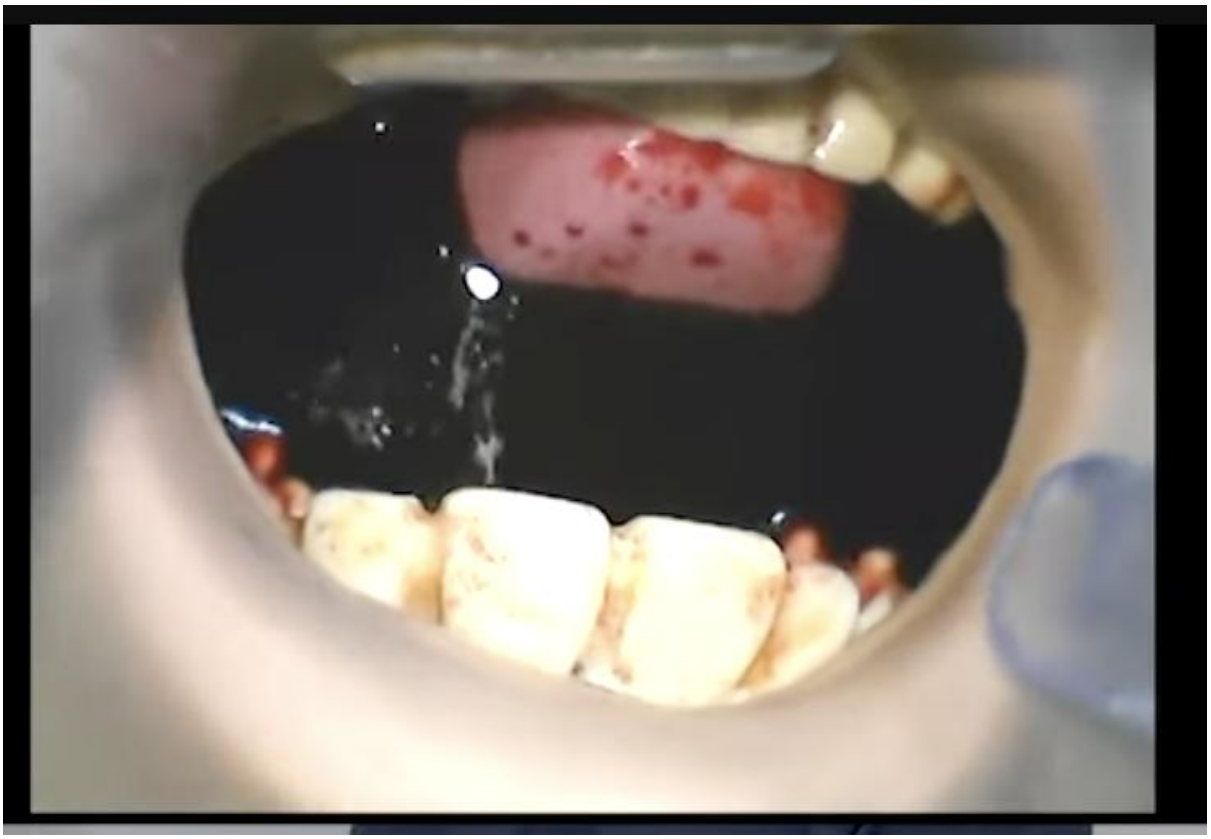
6. Disposition HR: 95 BP: 120/80 RR: 12 on vent O_2SAT: 92% on O2 GCS: Sedated, NT	Patient stabilizes	☐ Labs, sedation, antibiotics, ☐ MHP is discontinued ☐ Notify GI/IR/PTN (Disposition ICU)	*End case when patient transfer to higher level of care (PTN, GI, or IR) is initiated*	*MHP may be discontinued when pt BP stabilizes and passive emesis stops*

Appendix A: Laboratory Results

Not required nor available during case. If labs are ordered, learners should be told they are "pending" if asked.	

Appendix B: ECGs, X-rays, Ultrasounds and Pictures

AT STAGE 2: AIRWAY EXAM:



Screenshot image taken from video in references: The Basics of The Salad Technique - a free tutorial with Jim DuCanto, MD

UGIB CHECKLIST:

Print for access
https://docs.google.com/document/d/11aWe1W_CwrCwcyWOpPLgl6knS-yuTWESMH7uV-ROxFo/edit?pli=1&tab=t.0

XRAY FOR BALLOON PLACEMENT CONFIRMATION

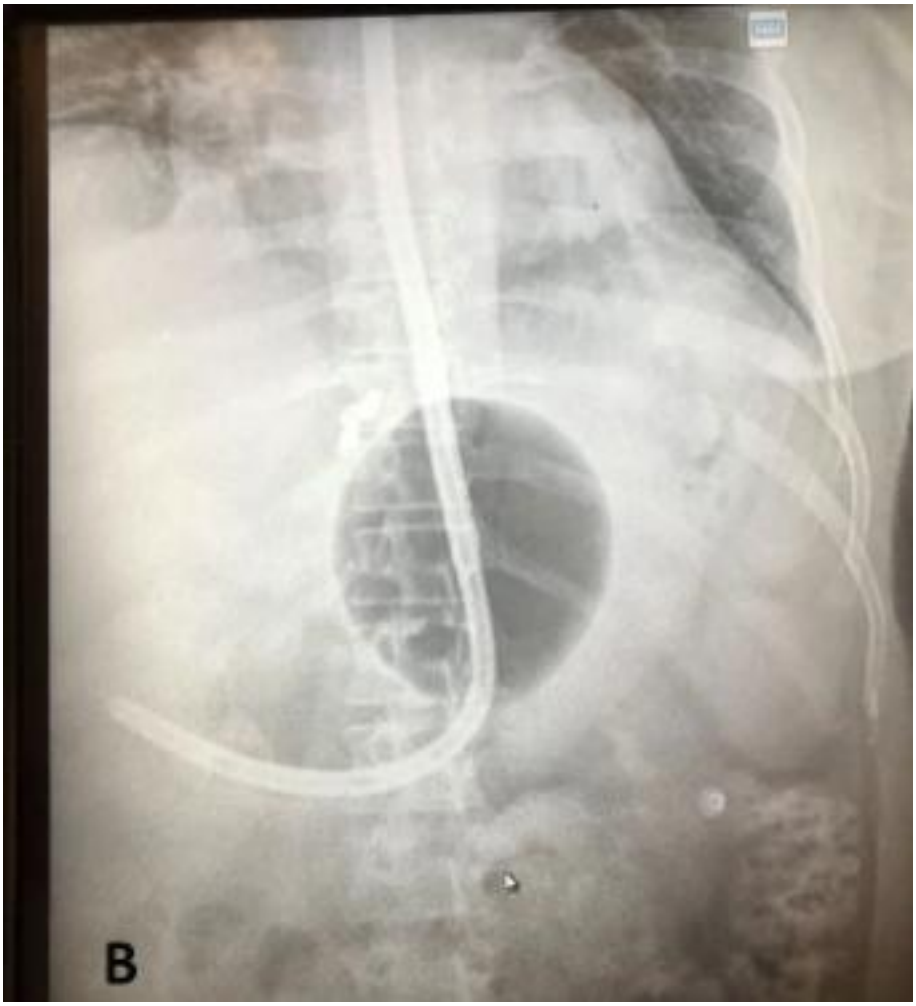


Image taken from **Air Care Series: Balloon Tamponade of Variceal Hemorrhage** By Bobby Whitford

Minnesota Tube Checklist (Physician Reference)

☐ 1. Confirm Indication

☐ Suspected/known variceal UGIB
☐ Ongoing hemorrhage despite resuscitation + vasoactive therapy
☐ Definitive therapy (GI/IR) activated

*Do **NOT** proceed if any of the following are present:*

☐ Unprotected airway
☐ Suspected esophageal rupture
☐ Recent esophageal surgery
☐ Esophageal stricture

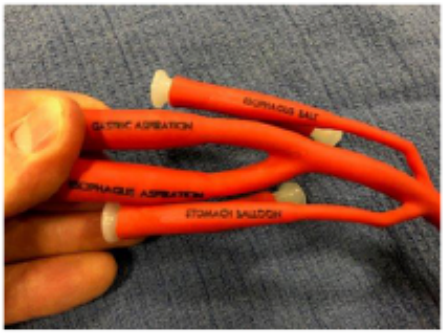


Figure 1. The four key ports of a Minnesota tube

☐ 2. Pre-Procedure (Do Not Skip)

☐ Airway secured (intubated)
☐ Two three way stop cocks
☐ Four dual luer lock caps
☐ 2 Large-bore IVs placed
☐ MTP is activated needed
☐ PPI given (Pantoprazole 80mg IV)
☐ Vasoconstrictors given (Octreoride 50ug IV)
☐ Antibiotics given (Cefriaxone 2g IV)
☐ ICU and GI notified
☐ Suction x2 set up
☐ Balloon integrity checked (inflate → deflate)

☐ 3. Equipment Check (DO NOT SKIP)

☐ Minnesota tube- with distance from stomach to teeth measured and all ports identified
☐ Manometer able to be attached with three way stopcock
☐ 50 ml syringe
☐ Lubricant
☐ Traction setup (IV pole + 500 mL saline bag or equivalent)- nursing

can consult traction instructions on page **X**
☐ Portable CXR available

☐ 4. Tube Insertion

☐ Patient 30–45° head-up
☐ Measure and mark insertion depth
☐ Insert tube orogastrically until insertion depth reached at teeth
☐ Aspirate gastric port
☐ Inject 50ml of air into the gastric ballon
☐ Confirm gastric position (CXR ASAP)

☐ 5. Gastric Balloon Inflation

☐ Inflate gradually with air with three way stopcock and syringe on "Gastric Balloon" port
☐ Target 500ml of air
☐ Apply gentle traction until resistance felt
☐ Secure traction (1000 mL weight (NS 1L bag))
☐ Document depth at teeth/lips
☐ Connect gastric suction to both gastric and esophageal ports
→ If bleeding controlled: **STOP HERE**

☐ 6. Esophageal Balloon (ONLY if ongoing bleeding)

☐ Connect Mamometer and 50ml tyrone to esophageal ballon port with three way stopcock
☐ Inflate esophageal balloon until mamometer reads to 25–30 mmHg
☐ Titrate to control bleeding- until esophageal tube stops draining blood
☐ Use lowest effective pressure
☐ Do not exceed local max (commonly ≤45 mmHg)

Appendix C: Facilitator Cheat Sheet & Debriefing Tips

Facilitator Cheat Sheet (errors to watch for)

- Delayed blood product administration/ over-reliance on crystalloids/ over administration of plasma/ administration of TXA
- Leaving the department for imaging or tests while unstable
- No early antibiotics or vasoactive therapy in suspected variceal bleed
- Attempting balloon tamponade without a protected airway (hard stop)
- Skipping CXR confirmation before full gastric balloon inflation
- Inflating esophageal balloon when not required

Debrief Prompts

1. What findings made variceal bleed most likely? What else was on your differential?
2. How did your team decide on when to intubate in massive UGIB/shock? What is the SALAD/bougie technique?
3. What are the "early bundle" elements in acute variceal hemorrhage + definitive therapy activation?
4. Is there good evidence to support MHP in UGIB? TXA? PPI? Octreotide? Ceftriaxone?
5. Balloon tamponade: when is it indicated, and what are the key safety checks? When might you continue to inflate the esophageal balloon?
6. How might you manage this case differently in a palliative/DNR patient?
7. CRM: What helped your shared mental model? Where did closed-loop comms break?

References

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