

**Abstraction Instrument for Validation of selected AHRQ
Quality Indicators**

PSI 9: Postoperative Hemorrhage or Hematoma (February 1, 2008; version 3.10)

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Section 1: Abstractor details

1.1 Date abstraction completed
__/__/_____

1.2 Abstractor identification number
- - - - -

Section 2: Record identification/validation

2.1 AHRQ Study identification number
- - - - -

2.2 Medical record number/Patient control number
- - - - -

2.3 Date of birth
__/__/_____

2.4 Gender
 Male
 Female

2.5 Date of admission
__/__/_____

2.6 Date of discharge
__/__/_____

Section 3: Ascertainment of event

3.1 Was the principal diagnosis related to pregnancy or a pregnancy related condition?

- Yes→ IF YES, describe in TEXT box and END the abstraction.
- No

3.2 Was the patient's primary reason for hospitalization related to a post-operative hemorrhage or hematoma from a previous operative procedure?

- Yes → IF YES, explain in TEXT box and continue with the abstraction.
- No

3.3 Did the patient undergo an operation in an operating room during this hospitalization?

- Yes → If YES, skip to Q 3.5.
- No → If NO, answer Q 3.4.

3.4 If Q 3.3=NO, did the patient have an operative procedure that took place outside of the operating room?

- Yes→ If Yes, select the area(s) that best describes the location where the procedure(s) took place.
 - Emergency department (ED)
 - Interventional radiology or cardiology suite
 - Post-anesthesia Care Unit (PACU)
 - Intensive Care Unit
 - Other special procedure suite (e.g., GI lab)
 - Other _____
- No → If NO to Q3.3 and 3.4, explain why the patient's chart was coded as if the patient had an operative procedure (in the TEXT BOX provided) and then END the abstraction.

3.5 Did the patient experience a post-operative hemorrhage or hematoma during this hospitalization?

- Yes
- No → if NO, provide an explanation in the TEXT BOX on why this chart was coded as such and then END the abstraction.

3.6 IF

 ed with

- Yes
- No → if NO, where in the body was the hemorrhage or hematoma located?
 - Gastrointestinal tract
 - Other (state) _____

Section 4: Risk factors

4.1 How many operations did the patient undergo during this hospitalization?

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4.2 Did the patient have any of the following conditions (known prior to or diagnosed during this hospitalization)? Select all that apply.

- Inherited coagulopathy [e.g., hemophilia, Christmas disease, or other clotting factor deficiency; von Willebrand disease; Glanzmann thrombasthenia, Bernard-Soulier syndrome, or other inherited platelet disorder]
- Severe liver disease
- Immune or thrombotic thrombocytopenic purpura (TTP)
- Disseminated intravascular coagulation (DIC)
- Therapeutic effects of anticoagulant medication present at admission
- Therapeutic effects of antiplatelet medication present at admission
- None of the above

4.3 Record whether (and when) the patient received any of the following medications during this hospitalization prior to the episode of postoperative hemorrhage or hematoma.

Medication type:	Administered prior to episode of postoperative hemorrhage or hematoma?	If yes, on what date was it last administered?
a. Antiplatelet (e.g., aspirin, clopidogrel)	<input type="checkbox"/> Yes <input type="checkbox"/> No	__ / __ / ____
b. Warfarin (e.g., Coumadin)	<input type="checkbox"/> Yes <input type="checkbox"/> No	__ / __ / ____
c. Heparin (e.g., unfractionated or low molecular weight)	<input type="checkbox"/> Yes <input type="checkbox"/> No	__ / __ / ____

If either Q4.3b (warfarin) or Q4.3c (heparin) is answered “yes,” please answer Q4.4
 If Q4.3b (warfarin) and Q4.3c (heparin) are both answered “no,” please go to Section 5.

4.4 What were the apparent clinical indications for post-operative anticoagulation (e.g., warfarin, heparin, or related agents)?

- Prophylaxis for deep vein thrombosis and/or pulmonary embolus (includes patients at risk for any reason)
- Treatment for deep vein thrombosis and/or pulmonary embolus
- Prophylaxis for a mechanical heart valve
- Prophylaxis for atrial fibrillation, dilated cardiomyopathy, mural thrombus, or other condition associated with increased stroke risk
- Other (describe in text box)

4.5 State the patient's height and weight.

Height _____ cm or ___ ft. ___ inches

Weight _____ kg or _____ pounds (lbs)

Section 5: Evaluation and treatment

Questions 5.1-5.10 refer to the first operative procedure.

5.1 List the name(s) and ICD-9-CM code(s) for each major procedure performed during the first operation of this hospitalization. Limit your answer to the top five procedures. Do not include incidental or minor procedures.

ICD-9-CM code -	Look-up box for procedure names
1.	1.
2.	2.
3.	3.
4.	4.
5.	5.

5.2 Using physician notes or operative notes, describe the indication(s) for the procedure(s). Use exact wording from the medical record.

5.3 State the operation incision start date ___/___/_____

5.4 State the operation incision time ___ : ___

5.5 Record the urgency of the procedure(s) performed during this first operation.

- Emergent or unscheduled
- Scheduled non-emergently during this admission
- Non-emergent or elective (scheduled prior to this admission)
- Critical documentation missing

5.6 Did the procedure(s) involve an attempt at control of hemorrhage, or drainage or evacuation of hematoma, that was either known or suspected to be ongoing at the time this operation began?

- Yes → If YES, explain the in TEXT BOX and END the abstraction if this was the only hemorrhage or hematoma the patient experienced.
- No

5.7 Did the patient experience a hemorrhage or hematoma **during** this operation?

- Yes → If YES, continue with Q5.8.
- No → If NO, skip to Q5.9.

5.8 Using exact wording from the operative note, describe the source of the hemorrhage or hematoma. Include both the anatomic location/region/structure(s) as well as the specific vessel name(s), if any.

5.9 Indicate the estimated blood loss (in mL) that is recorded for this operation:
____ mL

5.10 How many units of red blood cells or whole blood did the patient receive during the procedure? Do not include intra-operative salvage device or cell-saver units.

__ __ units

Answer questions 5.11-5.16 if the postoperative hemorrhage or hematoma PSI event was not associated with the first operation. Otherwise skip to Q 5.17.

5.11 If the PSI event was not associated with the first operation, list the name(s) and ICD-9-CM code(s) of each major procedure(s) performed during the subsequent operation that appears most likely to have caused the postoperative hemorrhage or hematoma. Limit your answer to the top five procedures.

ICD-9-CM code -	Look-up box for procedure names
1.	1.
2.	2.
3.	3.
4.	4.
5.	5.

5.12 Using exact wording from physician or operative notes, describe the indication(s) for the procedure(s).

5.13 State the operation incision start date __/__/____ Start time __: __

5.14 Record the urgency of the procedure(s) performed during this operation.

- Emergent (unscheduled)
- Scheduled non-emergently during this admission
- Non-emergent or elective (scheduled prior to this admission)
- Critical documentation missing

5.15 Indicate the estimated blood loss (in mL) for this operation.

___ mL

5.16 How many units of red blood cells or whole blood did the patient receive during the procedure? Do not include intra-operative salvage device or cell-saver units.

___ units

Hemorrhage/Hematoma:

5.17 Record the earliest date and time the hemorrhage and/or hematoma was first either suspected or identified. Use the first event in the case of multiple events.

Date __/__/____ Time __: __

5.18 What signs, symptoms, or laboratory findings did the patient have that prompted identification of the hemorrhage and/or hematoma? Check all that apply.

- Increased pain
- Decreased mobility
- Hypotension (systolic BP <90 mm Hg)
- Heart rate changes [<60 beats/min or >120 beats/min]
- Respiratory distress or dyspnea
- Mass or fluctuance on physical examination

- Frank hemorrhage on physical examination
- Decreased hematocrit/hemoglobin
- Chest x-ray finding
- CT (computed tomography) scan finding
- Other (describe in TEXT BOX) _____
- None of the above

5.19 Record the patient's level of nursing care at the time the hemorrhage or hematoma was first identified.

- Medical-surgical unit
- Stepdown/telemetry unit
- Critical care (ICU)
- Post-anesthesia care unit (PACU) or pre-operative holding area
- Operating room
- Procedure room or area (e.g., dialysis, bronchoscopy, endoscopy)
- Other _____

5.20 Record the patient's lowest temperature starting at the time of the procedure that led to the hemorrhage or hematoma to 24-hours post-procedure.

Date: __ / __ / ____ Time: __: __ Celsius __. __ or Fahrenheit ____ . __

5.21 Record the most extreme values of the following tests during the time period from the causative procedure until the first suspected or identified postoperative hematoma and/or hemorrhage.

Date	Time(24-hr)	Laboratory tests
__ / __ / ____	: ____	Lowest Platelets _____
__ / __ / ____ -	: ____	Highest PTT _____
__ / __ / ____ -	: ____	Highest INR _____

5.22 Did the patient have a reparative or exploratory procedure to address the hematoma or hemorrhage? Select all that apply.

- Yes, performed in the operating room → Answer questions OR.1-OR.8
- Yes, performed outside of the operating room → Answer questions P.1-P.7
- No → Explain why no interventions took place in the TEXT BOX → Go to 6.1.

Complete the following questions for each operative procedure (either reparative or explorative) performed as a result of the hemorrhage or hematoma:

Reparative/explorative operative procedure number: __

OR.1 What was the incision start date and time of the reparative or exploratory operative procedure?

Date: __ / __ / ____ Time: __ : __

OR.2 Using only physician documentation, select which of the following factors were responsible for the hemorrhage or hematoma. Mark unknown if critical documentation is missing and/or if causation is unclear. Check all that apply.

- Unraveling of a tied ligating suture
- Dislodging of a metal clip
- Defect in a vascular anastomosis
- Coagulopathy (i.e., diffuse bleeding process not amenable to control at operation; e.g., effect of heparin)
- Critical documentation missing
- Other (describe in TEXT BOX):

OR.3 Using exact wording from the operative note, describe the source of the hemorrhage or hematoma. Include both the anatomic location/region/structure(s) as well as the specific vessel name(s), if any.

OR.4 Based on the operative note, what measures were used to control the hemorrhage and/or hematoma? Check all that apply.

- Ligation (suture)
- Repair of a blood vessel with sparing of blood flow (either through the native artery or another conduit, e.g., an autologous vein or arterial graft or a synthetic graft)
- Clipping (metal)
- Electrocautery
- Compression

Reparative/exploratory operative procedure number: __

- Topical hemostatic agent [e.g., oxidized cellulose (“Surgicel” or “Oxycel”), gelatin foam (“Gelfoam”), thrombin solution or spray, fibrin glue, or microcrystalline collagen (“Avitene”)]
- Persistent clamping (application of a surgical instrument that remains in place at the conclusion of the procedure)
- Other (describe in text box using exact wording from the medical record)

OR.6 Using the operative note, approximately how much volume (in mL) of hematoma was drained/evacuated?

___ ___ ___ mL No hematoma Documentation insufficient

OR.7 Indicate the estimated blood loss (in mL) associated with this operation:

___ ___ ___ mL

OR.8 How many units of red blood cells or whole blood did the patient receive during the procedure? Do not include intra-operative salvage device or cell-saver units.

___ ___ ___ units

If the patient had more than one reparative or exploratory surgery as a result of the index hematoma or hemorrhage, copy pages 7-8 and repeat the questions for each event.

Answer the supplemental questions for non-operative procedures the patient underwent as a result of the first hemorrhage or hematoma. If the patient had no non-surgical procedures, skip to section 6.

P.1-4 Please indicate the date, time, procedure and ICD-9-CM code for each non-operative procedure used to control or minimize the hemorrhage or hematoma.

Date	Time	Procedure	ICD-9-code
1. / /	:		
2. / /	:		
3. / /	:		
4. / /	:		

P.5 Using only physician documentation, select which of the following factors were responsible for the hemorrhage or hematoma. Mark unknown if critical documentation is missing and/or if causation is unclear. Check all that apply.

- Unraveling of a tied ligating suture
- Dislodging of a metal clip
- Defect in a vascular anastomosis
- Coagulopathy (i.e., diffuse bleeding process not amenable to control at operation; e.g., effect of heparin)
- Critical documentation missing
- Other (describe in TEXT BOX):

P.6 Using exact wording from physician documentation, describe the source(s) of hemorrhage or hematoma. Include anatomic location/region/ structure(s) as well as the specific vessel name(s), if any.

P.7 Using physicians' records, what measures were necessary to control the hemorrhage or hematoma? Check all that apply.

- Control with an endovascular technique (e.g., embolization, balloon insufflation)
- Compression
- Topical hemostatic agent [e.g., oxidized cellulose (“Surgicel” or “Oxycel”); gelatin foam (“Gelfoam”); thrombin solution or spray; fibrin glue; microcrystalline collagen (“Avitene”)]
- Electrocautery
- Ligation (suture)
- Clipping (metal)
- Other (describe in text box using exact wording from the medical record)
- None of the above.

P.8 Indicate the total estimated blood loss (in mL) that is recorded in the physicians’ notes for this hemorrhage or hematoma. Include aspirated volumes for hematomas.

_____ mL or Documentation insufficient

Answer the following two questions for all patients.

5.23 How much blood did the patient receive over the entire hospital stay?

___ units OR _____ cc’s

5.24 Record the nadir (lowest) hemoglobin and hematocrit values during the time period from the causative procedure until hospital discharge (e.g., potentially related or attributable to the postoperative hemorrhage or hematoma).

Date	Time(24-hr)	Laboratory tests
___/___/___	___:___	Lowest hemoglobin _____
___/___/___ -	___:___	Lowest hematocrit ____.

Section 6: Outcomes

6.1 Does the medical record suggest that the patient suffered any adverse effects or consequences from the postoperative hemorrhage or hematoma? Check all that apply.

- Extended length of hospital stay
- Infection

- Prolonged requirement for mechanical ventilation
- Residual disability or impairment of normal function (present at discharge)
- Readmission
- None of the above or not specified

6.2 Did the patient die during this admission?

- Yes → Continue with Q 6.4.
- No → Skip to Q 6.5

6.3 If Q 6.3 = YES, was the death related to the hemorrhage or hematoma?

- Yes → Skip to Q 6.7.
- No

6.4 What the patient readmitted to the hospital within 30-days of discharge?

- Yes
- No → Skip to Q 6.7.

6.5 If Q 6.5 = Yes, was the readmission related to the hemorrhage or hematoma that the patient experienced during this hospitalization?

- Yes
- No

6.6 If there are special circumstances or comments related to this case that you feel are important that were not captured in the survey, please state in the TEXT BOX.

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