Abstraction Instrument for Validation of Selected AHRQ Quality Indicators PSI 10: Post-operative Physiologic and Metabolic Derangement (December 6, 2007; draft 6.4)

Public reporting burden for this collection of information is estimated to average 60 minutes per response, the estimated time required to complete the survey. An agency may not conduct or sponsor, and a person is not required to respond to, a collection of information unless it displays a currently valid OMB control number. Form Approved: OMB Number 0935-0124 Exp. Date xx/xx/20xx. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to: AHRQ Reports Clearance Officer Attention: PRA, Paperwork Reduction Project (0935-0124) AHRQ, 540 Gather Road, Room #5036, Rockville, MD 20850.

Section 1: Abstractor details

1.1 Date abstraction completed

__/_/____

1.2 Abstractor identification number

_ _ _ _ _ _ _ _ _

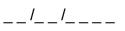
Section 2: Record identification/validation

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

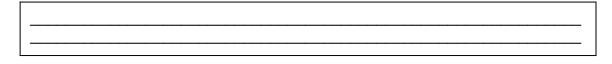
__/_/____

2.6 Date of discharge

__/_/____

Section 3: Ascertainment of event

- 3.1 Did this patient have a surgical procedure performed in the operating room during this hospitalization?
 - □ Yes
 - □ No \rightarrow IF NO, explain why this chart was most likely selected for review in the TEXT BOX provided and then END the form.



- 3.2 Was the surgery performed emergently or as a non-scheduled procedure?
 - □ Yes → IF YES, explain the circumstances surrounding the urgency of the surgery in the TEXT BOX provided and then END the form.

□ No

- 3.3 Was the admission related to pregnancy, childbirth and or to the puerperium (MDC 14)?
 - □ Yes \rightarrow IF YES, describe the condition in the TEXT BOX and then END the form.

□ No

- 3.4 During this admission, was the patient diagnosed prior to first elective surgery of having any of the following medical conditions? Check all that apply.
 - □ Chronic renal failure (CRF)
 - □ Acute renal failure receiving dialysis
 - □ Acute myocardial infarction
 - □ Cardiac dysrhythmias
 - □ Shock
 - □ Hemorrhage
 - □ Gastrointestinal hemorrhage or varicies
 - Diabetes with either ketoacidosis, hyperosmolarity or other coma
 - □ Cardiac arrest
 - \Box None of the above

If yes to any of the above, describe in the **TEXT BOX** and then **END** form.

Section 4: Diabetes

- 4.1 Did the patient have diabetes?
 - □ Yes, type I, known prior to admission
 - □ Yes, type II or unspecified, known prior to admission
 - □ Yes (new), diagnosed during hospitalization
 - \Box No \rightarrow IF NO, skip to Q 5.1
- 4.2 Which of the following post-operative events did the patient experience during **THIS** hospitalization? Select all that apply.
 - □ Diabetes with ketoacidosis

If YES, note the time and date of the first event:

	 	Date
:		Time

Did the patient the patient have an additional post-operative ketoacidotic event?

- □ Yes \rightarrow How many additional events? _ _ □ No
- □ Diabetes with hyperosmolarity
 - If YES, note the time and date of the first event:

	Date
:	Time

Did the patient the patient have an additional postoperative hyperosmolar event?

 \Box Yes \rightarrow How many additional events? ___

- 🗆 No
- Diabetes with other coma (hypoglycemic coma) If YES, note the time and date of the first event:

__|_| Date

Did the patient the patient have an additional postoperative diabetic coma event?

 \Box Yes \rightarrow How many additional events? _ _

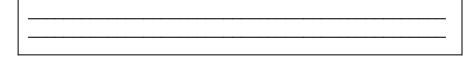
🗆 No

 \Box No event \rightarrow If NO, skip to Q 5.1

4.3 Did the patient have any of the following? Select all that apply.

- Chronic steroid use at the time of hospitalization
- History of gastric surgery (gastrectomy, gastrojejunostomy, pyloroplasty, gastric bypass or vagotomy)
- $\hfill\square$ None of the above

If YES to any of the above, explain in the TEXT BOX.



4.4 State the patient's normal (routine) medications prehospitalization: Select all that apply. For combination medications, select the individual components.

	Total dose
	per day
Oral medications	
□ Chlorpropamide (e.g., Diabinese)	mg
□ Glipizide (e.g., Glucotrol, Glucotrol XL),	mg
□ Glyburide (e.g., Micronase, Glynase, and Diabeta),	mg
□ Glimepiride (Amaryl)	_ mg
Repaglinide (Prandin)	mg
Nateglinide (Starlix)	mg
Metformin (Glucophage)	mg
Rosiglitazone (Avandia)	_ mg
Pioglitazone (ACTOS)	mg
Acarbose (Precose)	mg
Miglitol (Glyset)	mg
Pramlintide (Symlin)	mg
Exenatide (Byetta)	mg
Rapid-acting insulin	
Insulin lispro (Humalog)	units
Insulin aspart (Novolog)	units
Insulin glulisine (Apridra)	units
Short-acting insulin	
Regular (R) insulin (Humulin-R)	units
Intermediate acting	
Intermediate-acting	unito
□ NPH (N) or Lente (L) insulin (Humulin-N, Humulin-L,	units

Novolin N)	
Long-acting	
Ultralente (U) insulin	units
🗆 Humulin-U	units
Detemir (Levemir)	units
Insulin glargine (Lantus)	units
Insulin Analog Premixed	
Premixed NPH and Regular insulin mixture75/25	units
Premixed NPH and Regular insulin mixture70/30	units
(Humulin or Novolin 70/30)	
□ Humulin 50/50	units
□ Inhaled	units
Other	
□ Other	
□ Other	
□ Not on medication	
Critical documentation missing	

4.5 Select all diabetic medications that the patient received within 24-hours of event diagnosis and state the total dose given during the 24-hour period. For combination medications, select the individual components.

	Total dose per day
Oral medications	
□ Chlorpropamide (e.g., Diabinese)	mg
□ Glipizide (e.g., Glucotrol, Glucotrol XL),	mg
□ Glyburide (e.g., Micronase, Glynase, and Diabeta),	mg
□ Glimepiride (Amaryl)	_ mg
Repaglinide (Prandin)	mg
Nateglinide (Starlix)	mg
Metformin (Glucophage)	mg
Rosiglitazone (Avandia)	_ mg
Pioglitazone (ACTOS)	mg
□ Acarbose (Precose)	mg
Miglitol (Glyset)	mg
Pramlintide (Symlin)	mg
Exenatide (Byetta)	mg
Rapid-acting insulin	
Insulin lispro (Humalog)	units
Insulin aspart (Novolog)	units
Insulin glulisine (Apridra)	units

Short-acting insulin	
Regular (R) insulin (Humulin-R)	units
Intermediate-acting	
□ NPH (N) or Lente (L) insulin (Humulin-N, Humulin-L,	units
Novolin N)	
Long-acting	
Ultralente (U) insulin	units
🛛 Humulin-U	units
Detemir (Levemir)	units
Insulin glargine (Lantus)	units
Insulin Analog Premixed	
Premixed NPH and Regular insulin mixture75/25	units
Premixed NPH and Regular insulin mixture70/30	units
(Humulin or Novolin 70/30)	
□ Humulin 50/50	units
□ Inhaled	units
Other	
□ Other	
□ Other	
□ Not on medication	
□ Critical documentation missing	

- 4.6 Did the patient receive a beta blocker (beta-adrenergic blocking agents, betaadrenergic antagonists, or beta antagonists) within 24-hours of the event?
 - □ Yes
 - 🗆 No
- 4.7 Did the patient suffer or have any other following known conditions 24-hours prior to the event?
 - □ Acute myocardial infarction (AMI)
 - □ Ileus or intestinal obstruction
 - Pancreatitis
 - □ Peritonitis
 - □ Sepsis
 - \Box Infection \rightarrow If YES, state type:
 - o Urinary tract infection
 - o Pneumonia
 - o Wound
 - o Other (state)

 □ Other inflammatory response related condition → If YES, state type: □ None of the above
What best describes the patient's nutritional intake in the 24-hours prio diagnosis of the event? Check all that apply.
□ NPO
If Yes, date started:

□ Clear liquids

4.8

If Yes, date started: __|__|___

Amount consumed in 24 hours _ _ _ _ cc's

□ Regular (including diabetic, puree or other special need diet)

If Yes, date started: __|__|___

Percentage of meals consumed

____ % Breakfast ____ % Lunch ____ % Dinner

□ Tube feeding

If Yes, date started: __|__|___

Amount infused in 24 hours _ _ _ cc's

□ Parenteral nutrition (PPN or TPN)

If Yes, date started: __|__|___

Amount infused in 24 hours _ _ _ cc's

□ Other _____

4.9 What type and amount of IV fluid solution did the patient receive in the 24-hours prior to diagnosis?

to

	Lactated Ringer's (LR) cc/24 hours 10% Dextrose in water (D ₁₀ W) cc/24 hours
	5% Dextrose in water (D ₅ W) $_$ $_$ $_$ $_$ cc/24 hours
	D₅W NScc/24 hours
	D₅W ½ NS cc/24 hours
	$D_5W \frac{1}{4} NS __\cc/24$ hours
	0.9% Normal saline (NS) cc/24 hours
	0.45% Normal saline (NS) cc/24 hours
	Colloids (e.g., hydroxyethyl starch, albumin, dextrans) cc/24 hours
	Fresh frozen plasma cc/24 hours
	Other (state in TEXT BOX) cc/24 hours
	None
-	
-	

For hypoglycemia answer the following two questions.

Hypo.1 Lowest plasma glucose level (any method)

_ _ _ mg/dL or _._ mmol/L laboratory

- Hypo.2 Did the patient have any of the following signs and symptoms associated with their hypoglycemic event?
 - □ Seizure
 - □ Coma
 - □ Confusion or delirium
 - \Box None of the above

For hyperglycemia (DKA), answer the following eight questions.

- DKA 1: Highest plasma glucose level (any method)
 - _ _ _ mg/dL or _._ mmol/L laboratory
 - ___ mg/dL or □ for too high [HHH] per glucometer
- DKA 2: Highest serum ketone level

__. _ mmol/L

DKA 3: Serum sodium closest to highest blood sugar

___. mEq

DKA 4: Serum chloride closest to highest blood sugar

___. mEq

DKA 5: Serum blood bicarbonate (CO₂) closest to highest blood sugar

__. _ mEq/L

DKA 6: Lowest blood pH

__ · _

- DKA 7: Urine ketones (nitroprusside method)
 - \Box None \Box 1+ small \Box 2+ moderate \Box 3+ large
- DKA 8: What symptoms did the patient manifest?
 - □ Altered level of consciousness, confusion or delirium
 - □ Coma or severe lethargy
 - $\hfill\square$ None of the above

For Hyperosmolar Nonketotic Syndrome (HNKS) or state, answer the following three questions.

HNKS 1: Highest plasma glucose level (any method)

___ mg/dL or _._ mmol/L

HNKS 2: Highest osmolarity

___ mOsm/L

If serum osmolarity was not performed, please include the patient's sodium, BUN, and glucose drawn at the same time closest to the time of diagnosis OR the highest serum osmolality if drawn:

___ mEq/L Na (sodium)

___ mg/dL BUN (blood urea nitrogen)

____mg/dL Glucose

OR

_ _ _ mOsm/kg Serum osmolality

HNKS 3 What symptoms did the patient manifest?

- □ Altered level of consciousness, confusion or delirium
- □ Coma or severe lethargy
- \Box None of the above

For all diabetic related events, answer the next two questions.

- 4.10 Where in the hospital did the event take place?
 - □ Post-anesthesia care unit (e.g., PACU or recovery room)
 - □ Critical care or intensive care unit (e.g., CCU or ICU)
 - □ Step-down, transitional care, special observation or telemetry unit
 - □ General medical-surgical unit
 - □ Special procedure lab including diagnostic radiology
 - □ Other (state in the TEXT BOX)
- 4.11 Because of the event, was the patient moved to a higher level of care?

- □ Yes
 - o Critical care
 - o Step-down, transitional care, special observation or telemetry unit
 - o General medical-surgical unit
 - o Other (state in the TEXT BOX) _____

🗆 No

 	 · · · · · · · · · · · · · · · · · · ·

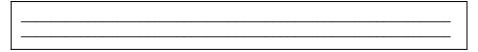
Section 5: Renal Failure

- 5.1 Did the patient experience new onset of renal failure post-operatively that required dialysis?
 - 🗆 Yes
 - □ No →If no and the patient had a diabetic complication (Q4.2 = YES), skip to section 6. If Q4.2 and Q5.1 are no (no metabolic derangement), then describe why this chart was most likely flagged for review in the TEXT BOX below and then end the form.

- 5.2 Type of dialysis and date started: Select all that apply.
 - Hemodialysis __|__| date __: __time
 Peritoneal dialysis __|__| date __: __time
 Other (Explain in TEXT BOX) __| date __: __time
 Critical documentation missing
- 5.3 What date was renal insufficiency or failure first suspected in the medical record?

__|_| date

- 5.4 What was the most likely cause of the renal failure (physician documentation)?
 - □ Decrease in effective blood volume (e.g., hemorrhage, burns, gastrointestinal losses, renal losses, fluid pooling)
 - □ Relative decrease in blood volume (e.g., ineffective arterial volume such as in CHF, sepsis, anaphylaxis, and liver failure)
 - □ Arterial occlusion (e.g., bilateral thromboembolism)
 - Nephrotoxin (e.g., antibiotics, iodinated contrast, chemotherapeutic agents, solvent)
 - □ Acute interstitial nephritis (e.g., drug-associated acute interstitial nephritis such as from methicillin)
 - □ Acute glomerulonephritis (e.g., postinfectious glomerulonephritis, antibasement membrane antibody disease)
 - □ Endogenous nephrotoxicity (e.g., intratubular pigments such as hemoglobinuria, myoglobinaruia), intratubular proteins (e.g., myeloma), intratubular crystals (e.g., uric acid, oxalate, tumor lysis syndrome)
 - □ Obstruction of collecting system
 - \Box Other \rightarrow If Yes, describe



□ Reason unknown or not stated

- 5.5 Did the patient have any of the following at the time of admission?
 - □ Recent trauma
 - □ Congestive heart failure
 - □ Renal insufficiency

- □ Acute renal failure
- □ Chronic renal failure not requiring dialysis
- □ Renal transplant
- □ Rhabdomyolysis
- □ Lymphoblastic leukemia or poorly differentiated lymphomas
- $\hfill\square$ None of the above
- 5.6 Did the patient receive any of the following during hospitalization?
 - □ Succinylcholine
 - □ N-acetylcysteine
 - □ Cisplatin
 - Aminoglycoside antibiotics (e.g., tobramycin, gentamicin, amikacin)
 - □ Angiotensin Converting Enzyme (ACE) Inhibitors
 - □ Angiotensin II Receptor Blockers (ARB)
 - Nonsteroidal anti-inflammatory (NSAIDS)/ Cyclooxygenase-2 inhibitors (COX-2)
 - □ Other cytotoxic medication
 - $\hfill\square$ None of the above
- 5.7 Did the patient receive any contrast medium? If YES, state the type and amount. Include contrast medium that may have been given during surgery.
 - \Box Yes \rightarrow If YES, state the type.
 - o Ionic: ____ total CC
 - o Non-ionic _ _ _ total CC
 - o Barium sulfate _ _ _ total CC
 - o Gadolinium (MRI) ____ total CC
 - o Unsure of type _ _ _ total CC

🗆 No

5.8 Highest plasma creatinine

____ mg/dL _____ date ___: ___ time (24-hr clock)

5.9 Highest Blood Urea Nitrogen (BUN)

___ mg/dL __|_ |_ __ date __: __ time (24-hr clock)

- 5.10 Did the discharge plan include dialysis post-discharge?
 - □ Yes
 - 🗆 No
 - □ Critical documentation missing

Section 6: Operative factors

For ALL patients

6.1	Pre-operative height (cm) or (ft) (inches)
6.2	Pre-operative dry weight (kg) or (lbs)
6.3	ICD-9-CM principal procedure name, code and date
	Name:Code Date_
6.4	ICD-9-CM other procedure code(s) and date(s)
	Name:Code Date_
	Name:CodeDate
	Name:CodeDate
	Name:Code Date_
6.5	Anesthesia start date and time of index surgery:
	_ date: time
6.6	Surgical incision date and time of index surgery:
	_ date : time
6.7	Surgical closure date and time of index surgery: date : time
6.8	Anesthesia end date and time of index surgery
	_ date: time
6.9	Method of anesthesia of index surgery:
	 General Spinal Epidural Other Critical documentation missing

6.10 Was the surgery performed completely by laproscopy?

- □ Yes □ No
- \square ND
- 6.11 Fluid intake and output during surgery

____cc in ____cc out

Section 7: Outcomes

- 7.1 Deposition at discharge
 - □ Home
 - □ Assisted living
 - □ Skilled nursing facility (SNF)
 - □ Non-acute care hospital/rehabilitation
 - \Box Expired \rightarrow If YES, was the death related to the metabolic derangement? o Yes
 - o No
 - □ Other (state)

7.2 Was the patient readmitted to your facility within 30 days of discharge?

- □ Yes
- 🗆 No
- □ Critical documentation missing
- 7.4 If yes to Q7.3, was the reason for re-admission related to metabolic derangement?
 - □ Yes, diabetes related
 - □ Yes, related to renal disease, failure or dysfunction
 - 🗆 No
 - □ Not applicable
 - □ Critical documentation missing
- 7.5 Did the patient expire within 30 days of discharge?
 - \Box Yes, diabetes related
 - □ Yes, related to renal disease, failure or dysfunction
 - □ Yes, due to other reasons or unknown
 - □ No or unknown
 - □ Critical documentation missing

7.6 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 these in the TEXT BOX provided [limit 200 characters]:

