American College of Radiology National Radiology Data Registry

IR Registry Measures

January 2017

Measure #	1
Measure Title	CVC History: Mitigating risk factors for difficult central venous access procedures: Review of history of central venous access procedures

Measure Description	Percentage of central venous access procedures performed before which the patient's history of central venous access was reviewed AND non-dedicated imaging if available, was reviewed, with documentation in the medical record.
NQS Domain	Patient Safety
Numerator	Number of central venous access procedures performed before which the patient's history of central venous access was reviewed AND non-dedicated imaging if available, was reviewed, with documentation in the medical record.
Numerator Data Elements	History of Central Venous Access Reviewed; Relevant Imaging Reviewed
Denominator	Number of central venous access procedures performed.
Denominator Data Elements	Report template pertains to central venous access (CVA)
Denominator Exclusions / Exceptions	Emergency procedure; history of central venous access unknown or unavailable in timely manner
Rationale	No existing measures address the process of assessing risk factors for venous stenosis / occlusion prior to central venous access procedures, and central venous catheter placement in particular. A multistakeholder consortium (VANGUARD) initiative has identified review of prior vascular access procedures as an important first step in improving the safety of central venous access procedures. Led by the SIR, this multidisciplinary, multispecialty group endeavors to leverage evidence to improve the quality of care and reduce the costs and complications of care related to central venous access.
Measure Type (Process/Outcome)	Process
Data Source	IR Registry; SIR Structured Reports
Notes	

Measure #	2
Measure Title	Appropriate venous access for hemodialysis

Measure Description	Percentage of patients undergoing tunneled (long-term) catheter access for hemodialysis via subclavian access as compared to internal jugular access
NQS Domain	Patient Safety
Numerator	Number of patients who underwent placement of tunneled catheters for dialysis via the subclavian veins.
Numerator Data Elements	Vein Accessed
Denominator	Number of patients receiving tunneled hemodialysis catheters placed via the upper body (internal jugular, external jugular/other collateral veins or subclavian veins)
Denominator Data Elements	Vein Accessed
Denominator Exclusions / Exceptions	Patients with occlusion of the internal jugular veins
Rationale	Tunneled catheter access is a well-established technique to achieve or bridge patients to hemodialysis via an arteriovenous fistula or graft. The preferred access site for long-term catheter access via the upper torso is the lower internal jugular veins. Catheters placed via the subclavian vein experience repetitive shear-type torsion which has resulted in catheter fracture and embolization. In addition, catheter placement in this location increases the likelihood of chronic injury to the subclavian vein, which is difficult to treat both surgically or endovascularly. Hence, it is preferable to place tunneled hemodialysis catheters via the lower internal jugular veins, or into a collateral vein draining into the subclavian-internal jugular confluence when possible.
Measure Type (Process/Outcome)	Process
Data Source	IR Registry, SIR Structured Reports
Notes	

Measure #	3
Measure Title	Uterine artery embolization technique: Documentation of angiographic endpoints and interrogation of ovarian arteries

Measure Description	Documentation of angiographic endpoints of embolization AND the documentation of embolization strategies in the presence of unilateral or bilateral absent uterine arteries.
NQS Domain	Effective Clinical Care
Numerator	Number of patients undergoing uterine artery embolization for symptomatic leiomyomas and/or adenomyosis in whom embolization endpoints are documented separately for each embolized vessel AND ovarian artery angiography or embolization performed in the presence of variant uterine artery anatomy.Embolization endpoints: Complete stasis (static contrast column for at least 5 heartbeats) / Near-stasis (not static, but contrast visible for at least 5 heartbeats) / Slowed flow (contrast visible for fewer than 5 heartbeats) / Normal velocity flow with pruning of distal vasculature / Other [specify] / Not documentedEmbolization strategy options for variant uterine artery anatomy: Ovarian artery angiography, Ovarian artery embolization, Abdominal Aortic angiography, None"
Numerator Data Elements	Diagnosis Endpoint left Endpoint right Aorta indication Endpoint left ovarian Endpoint right ovarian
Denominator	All patients undergoing uterine artery embolization for symptomatic leiomyomas and/or adenomyosis.
Denominator Data Elements	Left internal iliac findings Right internal iliac findings
Denominator Exclusions / Exceptions	None
Rationale	This measure ensures documentation of two important procedural aspects of uterine artery embolization, which are known to be associated with treatment efficacy: (1) appropriate embolization endpoints achieved and (2) delineation of all uterine arterial supply with embolization where possible. Inadequate embolization alone is a known cause of treatment failure. The ovarian arteries often provide an alternate route of arterial supply to the uterus when the uterine artery is occluded or absent; however routine aortography is not recommended when conventional uterine artery anatomy is present.
Measure Type (Process/Outcome)	Process

Measure #	3
Measure Title	Uterine artery embolization technique: Documentation of angiographic endpoints and interrogation of ovarian arteries
Data Source	IR Registry, SIR Structured Reports
Notes	

Measure #	4
Measure Title	Rate of early peristomal infection following fluoroscopically guided gastrostomy tube placement

Measure Description	Percentage of patients with peristomal gastrostomy infection no more than14 days following initial tube placement
NQS Domain	Patient Safety
Numerator	Number of patients with peristomal infections no more than 14 days following percutaneous gastrostomy insertion
Numerator Data Elements	[Addendum fields] Evaluation Site Evaluation Site Description
Denominator	Number of patients undergoing primary fluoroscopically “push” type gastrostomy insertion or fluoroscopically guided “hybrid” gastrostomy insertion.
Denominator Data Elements	"# of completed Gastrostomy procecedures (i.e. number of reports for SIR_GI_GastrostomyPull1.0 and SIR_GI_GastrostomyPush1.0) up to 2 weeks before end of reporting year (to enable follow-up to be completed)Date of exam"
Denominator Exclusions / Exceptions	Evaluation:The patient returned on [date] for site evaluation/The patient did not return for site evaluation [exclusion for lost to follow-up]
Rationale	The incidence of peristomal infections is reported between 5.4-30% and as high as 45% in other series following “retrograde” fluoroscopically guided gastrostomy tube insertion. There is consensus that the use of prophylactic antibiotics is appropriate for “hybrid” fluoroscopically guided gastrostomy (using retrograde pull technique through oropharynx and esophagus); however, no such consensus has been reached for push-only (antegrade) fluoroscopically guided gastrostomy tube placement. Tracking peristomal infections will drive individual to consider altering their antibiotic regimens to achieve a lower infection rate than peers.
Measure Type (Process/Outcome)	Outcome
Data Source	IR Registry, SIR Structured Reports
Notes	

Measure #	4
Measure Title	Rate of early peristomal infection following fluoroscopically guided gastrostomy tube placement

Measure #	5
Measure Title	Rate of percutaneous nephrostomy tube replacement within 30 days secondary to dislodgement

Measure Description	Percentage of percutaneous nephrostomy tube replacement within 30 days following initial placement.
NQS Domain	Patient Safety
Numerator	Number of percutaneous nephrostomy tubes requiring replacement of a percutaneous nephrostomy tube secondary to dislodgement within 30 days of initial placement
Numerator Data Elements	Pre-procedure Diagnosis
Denominator	Number of percutaneous nephrostomy tubes placed primarily.
Denominator Data Elements	# of completed initial nephrostomy placement procedures AND Intervening Renal Procedure: Not Applicable/None/Unknown/Right Kidney [Specify]/Left Kidney [Specify]/Bilateral Kidneys [Specify] {part of all reports}
Denominator Exclusions / Exceptions	Patients undergoing an intervening procedure on the kidney. Malfunctioning tubes which are found to be appropriately positioned are included in the denominator but excluded from numerator; these tubes require exchange rather than replacement.
Rationale	Replacement of percutaneous nephrostomy tubes that have become dislodged contributes to cost to the healthcare system and can lead to morbidity/mortality depending on the clinical scenario. Percutaneous nephrostomy catheters have an expected duration of 4-8 weeks depending on the clinical scenario; tubes are exchanged if long-term external drainage is required. Replacement of the tube once dislodged requires navigating an established tract (chronic) or a new percutaneous access (recently placed catheter). The rate of dislodgement has been reported from less than 1% in the early postplacement period to between 11 and 30% for longer duration catheters. Different securing strategies have been described in the literature and are known to reduce the rate of catheter

Measure #	5
Measure Title	Rate of percutaneous nephrostomy tube replacement within 30 days secondary to dislodgement
	dislodgement. Replacement of percutaneous nephrostomy tubes unnecessarily re-exposes patients to the risks inherent with the initial tube placement.
Measure Type (Process/Outcome)	Outcome
Data Source	IR Registry, SIR Structured Reports
Notes	

Measure #	6
Measure Title	Rate of Inadequate Percutaneous Image-Guided Biopsy

Measure Description	The percentage of percutaneous image-guided (US, CT, fluoro) biopsy procedures performed in which sampling was inadequate for diagnosis on the final pathology report.
NQS Domain	Patient Safety
Numerator	Number of percutaneous image-guided biopsy procedures performed associated with a specimen sample considered inadequate for pathological analysis.
Numerator Data Elements	Previous Biopsy
Denominator	Number of percutaneous image-guided biopsies performed
Denominator Data Elements	Number of percutaneous biopsy procedure reports
Denominator Exclusions / Exceptions	Repeat biopsy procedures performed following an initial inadequate sample – excluded from numerator / denominator.
Rationale	The success rate of percutaneous biopsy is determined by the suitability of the sample for pathological analysis. Patients in whom a biopsy procedure yields inadequate specimens for analysis may be referred for repeat percutaneous biopsy, open biopsy, or undergo imaging to assess for alternative sites for biopsy increasing costs to the system, necessitating a second procedure or imaging test, and resulting in a delay in diagnosis. This measure provides an overall assessment of effective biopsy sampling, which directly influences the patient experience and is an important component of efficient patient care.Evidence to support this measure comes from several published studies which were reviewed in a SIR Standards of Practice Document published in 20101. The mean pooled success rates ranged from 70-96% for adequacy of sampling across a range of biopsy locations in 23 studies. The consensus panel suggested a threshold of 70-75% adequate sampling rate for internal quality improvement purposes. The proposed metric is intended not to penalize operators for attempting difficult percutaneous biopsies, but rather to place a priority on working with on-site pathologists to enable cytopathologic review during the biopsy procedure to ensure adequacy of sampling in a single

Measure #	6
Measure Title	Rate of Inadequate Percutaneous Image-Guided Biopsy
	procedure.
Measure Type (Process/Outcome)	Outcome
Data Source	IR Registry, SIR Structured Reports
Notes	

For more information, please visit the NRDR website.

www.acr.org/Quality-Safety/National-Radiology-Data-Registry/