IR

Interventional Radiology

Standardized Reporting User Guide

Society of Interventional Radiology (SIR) and
SIR Foundation

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INTRODUCTION

Standardized Reporting templates have been created by the Society of Interventional Radiology (SIR) for use in procedure reporting. The templates have undergone extensive review by a committee of private practice and academic Interventional Radiologists, billing and coding experts, regulatory advisors and clinical researchers. A pilot study at numerous practices aided in the refinement of these templates to balance report length with data elements required to optimize billing, satisfy MIPS and The Joint Commission (TJC) requirements, and provide a logical description of the procedure that is easy to read by clinicians and Interventional Radiologists. The structured format allows for data to be extracted for registry, quality, and future research purposes.

The Standardized Reports are a result of the hard work of many members of the SIR. Thousands of work hours have been applied in creating these reports as a starting point for improving the quality of care that is delivered by Interventional Radiologists. The more the reports are utilized, the better they will become when integrating user feedback. Working together will allow the SIR to become leaders in delivering quality care.

GOALS

The goals of Standardized Reporting are:

1. To create a set of templates that contain the information necessary to meet billing, regulatory, and registry requirements which can be used in both private practice and academic settings
2. To include the minimum necessary information related to the procedure pertinent to interventional radiologists
3. To allow customization for different practice patterns

REPORT AVAILABILITY

The reports are available online at http://www.sirweb.org/ in both XML and Rich Text Format (RTF) versions. The XML reports were designed for users of PowerScribe 360® (PS360); however, the RTF versions can be used as a basis for designing the same templates for other systems. RTF versions can be viewed by any word processing software such as Microsoft Word®. The SIR hopes to expand the templates into other reporting systems in the future.

Reports are undergoing regular updates based on changes in Center for Medicare and Medicaid Services (CMS) billing requirements, TJC requirements, and feedback from individuals and groups utilizing the templates. Please check the website regularly for updates in reports. The listed version of the reports online should be checked against that in any currently utilized reports to ensure the latest and greatest versions are being used.

ABBREVIATIONS

ACR	American College of Radiology
CMS	Centers for Medicare and Medicaid Services
MIPS	Merit-based Incentive Payment System
PS360	PowerScribe 360®
QCDR	Qualified Clinical Data Registry
RTF	Rich Text Format
SIR	Society of Interventional Radiology
TJC	The Joint Commission
XML	Extensible Markup Language

STANDARDIZED REPORTING STRUCTURE

The reports have been created in a modular format. This format allows for repeating elements throughout multiple types of reports for consistency. Each module is placed within a heading explained below. Within each module are a list of data elements with corresponding data values. The data elements are the words preceded by the colon character (":") (e.g. "Pre-procedure diagnosis:"). The data values are the options for the data element, otherwise known as "pick-lists" in PS360.

Some information that is known to be variable between different practices and is not critical for data collection has been placed in a free-text format (i.e. narrative text). These do not conform to the "data element: data value" format. This information can be altered as needed unless explicitly stated in the report or in this user guide.

HEADINGS

Reports have been organized into the following headings (description follows each heading):

- *Procedure* – The procedure name (**SHOULD NOT BE ALTERED**)
- *Impression* – The procedure impression to typically include the most important details or interpretations of the study. This can be modified based on local practice patterns.
- *Plan* – Any follow-up, future studies, or important details regarding patient care. This can be altered as needed based on local practice patterns
- *Procedure Summary* – A list of pertinent technical details of the procedure intended mostly for billers and coders to be able to view a quick summary of the procedure. Practices should speak with their billing/coding staff to determine what information is best placed here. They have been defaulted with the information needed to properly bill a procedure based on feedback from billing and coding experts. However, the language can be changed, additional entries may be placed, and existing entries may be removed as needed.
- *Procedure Details* – The in-depth description of the procedure broken into modules.

The *Procedure, Impression,* and *Plan* heading comprise the Executive Summary. The Executive Summary is located at the top of the report and was created based on referring clinician feedback as a quick reference to the most important details of the procedure. The order of the headings should not be altered, and the Executive Summary should remain at the top of the report.

MODULES

Modules have been designed to include the core details of the procedure. Each module can be duplicated within the report as needed. Each module can also be removed as needed. For example, within the **SIR CVA Tunneled Catheter** report is a module named "Venography" whose data elements are shown below:

Venography
Vein catheterized:
Indication for venography:
Findings:

In this instance, a venogram is unlikely to be performed in a majority of tunneled central venous access catheter placements. The module can therefore be deleted in its entirety. In case several venograms are performed during a tunneled central venous access catheter placement, the module may be duplicated as many times as needed.

Of note, the "Additional Details" module should **never** be removed as it contains a data element that is required for proper data extraction as described in the next section.

Modules are composed of data elements and, occasionally, of narrative text. The narrative text may be altered as needed. New narrative text should not be added anywhere within an existing module outside of any existing narrative text. If practice or procedure specific details need to be added, individuals or groups may create new modules. However, these will not be extracted into the SIR/ACR registry. If additional narrative text needs to be added, please enter this under the "Additional description of procedure:" data element in the "Additional Details" module.

DATA ELEMENTS AND DATA VALUES

DATA ELEMENTS

Within each module is a list of data elements and data values. It is crucial that the data elements not be changed in any way during the adoption of the templates. The ability to extract data relies on the precise naming of these data elements. As described previously, the "Additional Details" module should never be removed because of the presence of the "Standardized report:" data element. This element allows for proper identification and data extraction of each report. The data *value* following the "Standardized report:" data element should also not be altered. This defines the particular report, including the version, to allow for proper data extraction.

Just to emphasize the importance:

Please do not change any data elements within the reports.

Modules may be removed from reports, but individual data elements should not be removed from modules. If an individual data element is not relevant to the procedure, please enter "Not applicable".

DATA VALUES

Data values are the words/sentences that follow the data elements. In the RTF files, these are often denoted in red letters. In general, the data values can be altered to adhere to local practice patterns. For example, in the **SIR CVA Tunneled Catheter** report, within the "Closure" module is a data element named "Access site closure technique:". For convenience, the data values have been pre-populated with the following options:

- Tissue adhesive
- 4-0 absorbable suture
- 4-0 absorbable suture and tissue adhesive
- 3-0 absorbable suture
- 3-0 absorbable suture and tissue adhesive
- Other

If more specific details are required within an individual practice, these can be removed or additional options can be added such as 3-0 Vicryl, 3-0 Monocryl, or 3-0 Polysorb. Data elements that are denoted by "MIPS" or "QCDR"

should not have their data values altered by addition, replacement, or subtraction. In addition, as described previously, the “Standardized report:” data value should never be altered or removed. For emphasis:

Do not change the “Standardized report:” data element or its associated data value.

For an in-depth description of every data element and its associated data value, please refer to the SIR Interventional Radiology Registry Data Dictionary available online at http://www.sirweb.org.

SAMPLE REPORT

The following is a sample report, with an explanation of why each data element is present, and some supplemental information to help you use these reports in an optimal manner.

The first page of the report is an ***executive summary*** which summarizes the key information of the procedure.

PROCEDURE:	Title of the procedure. Joint Commission requirement.
Procedural Personnel	Joint Commission requirement
Attending(s):	Can be set up for automatic population. Must be unique in your practice setting (For example, include first name/initial if necessary – J. Smith, MD or John Smith MD). Optional inclusion of title.
Fellow(s):	Modify the pick-list to include your fellows, if applicable
Resident(s):	Modify the pick-list to include your residents, if applicable
Advanced practice provider(s):	Modify the pick-list to include your NPs, PAs or RAs, if applicable
Pre-procedure diagnosis:	Patient's underlying diagnosis – may not be the reason for procedure. Joint Commission requirement.
Post-procedure diagnosis:	Defaults to "same" but can be edited if diagnosis changes during procedure. Joint Commission requirement.
Indication(s):	Procedure indication. If auto-populated from referral, edit as needed to be informative and clinically meaningful, justifying the procedure. Joint Commission requirement.
Complications:	Defaults to none; any complications should be entered here. Joint Commission requirement.
IMPRESSION:	The overall impression. As findings are not explicitly listed in the executive summary, any significant, unusual, or unexpected findings can be highlighted here as well based on operator discretion. Findings are located within modules in the Procedure Details section.
Plan:	Immediate post-procedure plan, and/or follow-up plan

PROCEDURE SUMMARY:	Itemized list of the procedures performed to guide billing activities, also serving as a reference to referring MDs and future IRs to know what was done. Defaulted

to the most common components of each procedure but can be edited as needed.

PROCEDURE DETAILS: The remainder of the report constitutes a more technical description arranged as a series of chronologically arranged modules providing consistency across procedure types. Any modules not relevant to a certain procedure can either be designated “Not applicable” or deleted (for example, the venography module in a port placement report may be deleted for cases where venography is not performed).

---------- The following are standardized modules for all templates ----------

Pre-procedure

Relevant imaging review: Prior imaging comparison - study type and date

Prophylactic antibiotic administered: The prophylactic antibiotic administration time module is a ***CMS-approved performance measure***. The percentage of procedures where antibiotics are appropriately started within the recommended one-hour time window prior to incision time (two hours for vancomycin or fluoroquinolones) will be a metric by which we are measured, and can impact reimbursement. The specific antibiotic does not need to be specified here if already included in the medication administration record (MAR).

Preparation: The central venous catheter sterile preparation statement is a ***CMS-approved performance measure***. The percentage of cases where complete sterile preparation was performed will be a metric by which we are measured, and can impact reimbursement. If complete sterile preparation is not performed, an explanatory exception statement is valid.

Anesthesia/sedation

Level of anesthesia: These are defined by Joint Commission and the American Society of Anesthesiologists as 4 levels.

Minimal sedation: a drug-induced state during which patients respond normally to verbal commands. Although cognitive function and coordination may be impaired, cardiovascular and respiratory functions are unaffected.

Moderate sedation: a drug-induced depression of consciousness during which patients respond purposefully to verbal commands either alone or accompanied by light tactile stimulation. No intervention is required to maintain a patent airway, spontaneous ventilation is adequate, and cardiovascular function is maintained.

Deep sedation: a drug-induced depression of consciousness during which patients cannot be easily aroused but respond purposefully following repeated stimulation. Patients may require assistance in maintaining a patent airway, spontaneous ventilation may be inadequate, but cardiovascular function is usually maintained.

General anesthesia: a drug-induced loss of consciousness during which patients are not arousable even by painful stimulation. Cardiovascular and respiratory function may be impaired.

Other: could include spinal or regional anesthesia.

Anesthesia administered by: For moderate sedation, continuous monitoring by an independent trained observer (a nurse or other qualified person) must be documented. Mild sedation may or may not require such monitoring, depending on the situation. Deep or general anesthesia is typically administered by anesthesiology.

Duration of anesthesia/sedation: Time of sedation is typically billed in 15 minute blocks, so the duration of sedation is important for procedures where the sedation is not bundled with the procedure itself.

Access The access module contains the verbiage that is required to bill for ultrasound access, including declaration of vessel patency and storage of a permanent image.

Vessel accessed: The vessel accessed.

Access technique: Should be modified and defaulted according to institutional standard.

---------- the following are some procedure modules for a port placement report ----------

Venography A venography module is included in central venous access templates for the scenario where venography is performed. Since this is often not necessary, “Not applicable” may be used by default, or this module can be deleted.

Vein catheterized: Billing for venography requires declaration of the vein catheterized.

Indication for venography: Billing for venography requires an appropriate indication.

Findings: Billing for venography requires declaration of findings.

Port placement A standard technique statement is included in this module, which can be modified if desired.

Port placed: As new devices are continually introduced to market, not all available devices may be included here. Each institution should create an appropriate pick-list including their available devices, following the format in this template.

Catheter size: The French size of the catheter. Eventually this may be auto-populated by scanning the unique device identifier (UDI).

Catheter tip position: Traditionally, catheter tip location was described as SVC or cavoatrial junction or right atrium, etc. However, these anatomic locations cannot be accurately or reliably determined by the appearance on fluoroscopy. Thus, a more objective

measure of tip position is used here, which can be reliably determined and then be subjected to future evaluations to determine the ideal tip position. Catheter tip is described first as central (meaning inferior to the C7-T1 intervertebral disc and medial to the lateral rib margin) or peripheral (outside these landmarks). Next, the spine is used as an internal ruler to determine the catheter tip location by number of *vertebral body units* (the height of one vertebral body + one disc space) above or below the carina. Of note, the cavoatrial junction averages 2.25 to 2.5 vertebral body units below the carina, though there is fairly wide variation among individuals.

Unique Device Identifier (UDI): This is a unique identifier that will be associated with each particular device. The UDI will encode the device brand, type, size, and other information. Eventually a bar-code scanner or similar mechanism will allow scanning of the UDI directly into the report for auto-population.

Catheter flush: The most common catheter flush solutions are included here.

Closure
A standard technique statement is included in this module, which can be modified if desired.

Access site closure technique: The technique is described in general terms, but this pick-list can be modified to include the specific techniques favored by each institution.

Incision closure technique: The technique is described in general terms, but this pick-list can be modified to include the specific techniques favored by each institution.

Patient discharged from procedure suite with device accessed:

This indicates whether the device was left accessed for immediate use.

----------the following are some procedure modules for a uterine artery embolization report----------

Arteriography

Vessel catheterized: The most common vessels catheterized are defaulted for the UAE report, with each vessel having its own module. These modules can be deleted if the vessel is not catheterized, and the modules can be copy/pasted to add additional vessels.

Indication for arteriography: Indication for arteriography is required for billing. Angiograms done only to roadmap for a procedure or to check catheter position are often not billable. Diagnostic angiograms are typically billable. These pick-lists can be modified as desired.

Findings: Findings are required for billing. Pick-lists can be modified as desired.

Embolization

Left uterine artery The typical arteries embolized in the procedure are defaulted, with each vessel embolized having its own module.

Catheter position for embolization: The most common catheter positions are documented in a pick-list.

Angiographic endpoint: A semi-objective measure of angiographic endpoint will allow standardization.

Stasis: Contrast still visible after 5 heart beats

Near-stasis: Contrast still visible for up to 5 heart beats

Slowed flow: Not static but flow is slower than normal

Distal pruning: Flow rate appears normal but there is occlusion of distal vasculature.

Primary embolic material: The most common embolics are provided in a pick-list. This can be modified by each institution.

Total volume of primary embolic administered: The volume of actual embolic material (so ½ vial of Embospheres would be 1 cc)

Additional embolic material: This is provided for situations where a different size or type of embolic is also used.

Total volume of additional embolic administered: The volume of actual embolic material (so ½ vial of Embospheres would be 1 cc)

<u>Closure</u>

Access site angiography performed: Angiography at the access site.

Indication for angiography: Closure site angiography is typically not billable if it is being done to determine suitability for a closure device. However, if it is being done for a different reason, it may be billable.

Findings: Findings with the most common findings provided in a pick-list.

Arterial closure technique: Manual compression, common closure devices, and radial bands included in a pick-list. This can be modified for each institution.

Arterial closure success: An objective measure of closure success will allow standardization.

Successful closure device: Closure device used and produced immediate hemostasis

Partially successful closure device: Closure device used and up to 5 minutes supplemental compression needed to achieve hemostasis

Unsuccessful closure device: Closure device used and >5 minutes supplemental compression needed to achieve hemostasis

Manual 15 minutes: No closure device, up to 15 minutes compression required

Manual 30 minutes: No closure device, 16-30 minutes compression required

Manual 45 minutes: No closure device, 31-45 minutes compression required

Manual 60 minutes: No closure device, 46-60 minutes compression required

Manual unsuccessful: No closure device, manual compression could not produce hemostasis, please specify action taken

Sheath left in place: No closure, sheath was left in place

Radial band successful: Radial compression band successfully achieved hemostasis

Radial band unsuccessful: Radial compression band did not achieve hemostasis

----------the following resume standardized modules for all reports----------

Contrast

Contrast agent:	Several common contrast agents are included, this can be modified by each institution.
Contrast volume:	Defaults to zero for procedures where contrast injection is not typically performed.

Radiation Dose	Radiation dose reporting is a ***CMS-approved performance measure***. The percentage of procedural reports documenting radiation exposure indices will be a metric by which we are measured, and could impact reimbursement.
Fluoroscopy time:	Fluoroscopy time in minutes.
Reference air kerma:	Air kerma in milliGray. Some fluoroscopy units may use Gray, *ensure that units are converted appropriately*
Kerma area product:	Kerma area product in Gy-cm2 (also known as dose area product). Some fluoroscopy units may use mGy-cm2, *ensure that units are converted appropriately*

Additional Details

Additional description of procedure:	Space provided for description of additional or adjunctive procedures performed
Additional findings:	Space provided to describe the findings of the additional or adjunctive procedures described just above
Additional equipment:	Space provided to list additional equipment used, which may be helpful if the procedure is repeated in the future.
Specimens removed:	Joint Commission requirement
Estimated blood loss:	Joint Commission requirement
Standardized report:	This unique code identifies the use and version number of the SIR report.

Attestation	The attestation statement should auto-populate the supervising attending, who can then document their level of involvement, which could vary from presence during the entire procedure, presence for key elements of the procedure, or supervision from a nearby location.