

# Order Sets, Protocols, Preprinted & Standing Orders: CMS Interpretive Guidelines & Regulations



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# Speaker

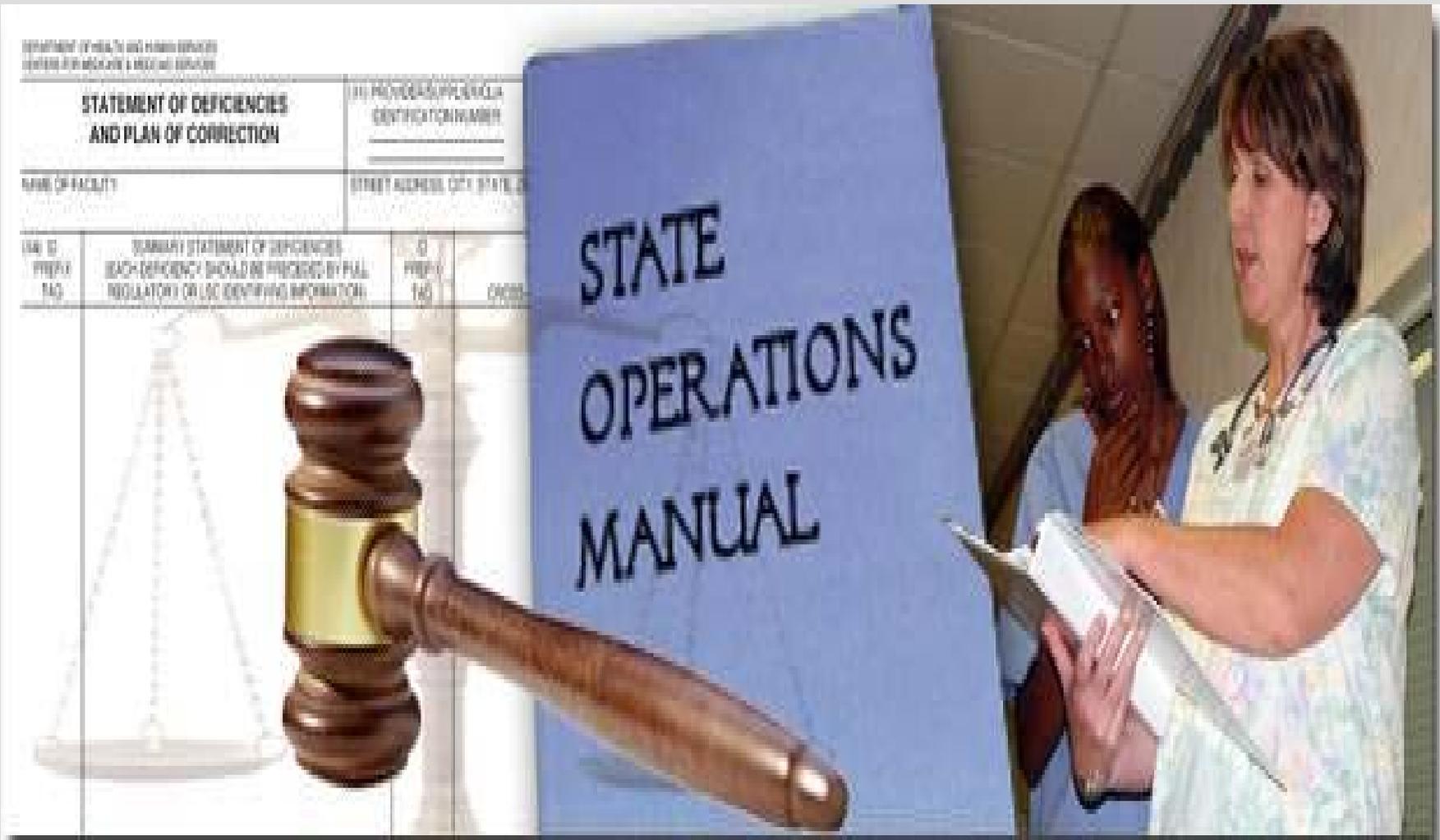


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- AD, BA, BSN, MSN, JD
- President of Patient Safety and  
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- 5447 Fawnbrook Lane
- Dublin, Ohio 43017
- 614 791-1468 (Call with Questions, No Emails)
- [sdill1@columbus.rr.com](mailto:sdill1@columbus.rr.com)
- Email questions to CMS at [hospitalscg@cms.hhs.gov](mailto:hospitalscg@cms.hhs.gov)

# Objectives

- Describe the critical changes to Tag numbers 405, 406 and 457.
- Explain the CMS requirements for hospital standing orders and protocols.
- Explain new and revised standards, regulations, and laws put forth by CMS, TJC and the federal government.
- Evaluate compliance requirements and penalties.

# You Don't Want One of These



# The Conditions of Participation (CoPs)

- Many revisions since 1986
- Hospital CoP Manual updated more frequently now so check website monthly
- First regulations are published in the **Federal Register (FR)** then CMS publishes the **Interpretive Guidelines** and some have **survey procedures** <sup>2</sup>
  - Hospitals should check this website once a month for changes and can sign up to get the FR for free

<sup>1</sup> <http://www.gpo.gov/fdsys/browse/collection.action?collectionCode=FR>

<sup>2</sup> [www.cms.hhs.gov/SurveyCertificationGenInfo/PMSR/list.asp](http://www.cms.hhs.gov/SurveyCertificationGenInfo/PMSR/list.asp)

# CMS Standing Orders

- CMS has an email address that you can send questions to and get the answer in writing
  - Questions to **[hospitalscg@cms.hhs.gov](mailto:hospitalscg@cms.hhs.gov)**
- CMS publishes 165 page final regulations changing the CMS CoP and has section on **standing orders**
- Moved standing orders to **457 in Medical Records** which is the primary section
- So now in sections **405, 406, 450, and 457**
- So need to be aware of all 4 tag numbers
- Consider citing these in your P&O

# Final IGs on Standing Orders

**A-0457**

*(Rev. )*

**§482.24(c) (3) Hospitals may use pre-printed and electronic standing orders, order sets, and protocols for patient orders only if the hospital:**

*(i) Establishes that such orders and protocols have been reviewed and approved by the medical staff and the hospital's nursing and pharmacy leadership;*

*(ii) Demonstrates that such orders and protocols are consistent with nationally recognized and evidence-based guidelines;*

*(iii) Ensures that the periodic and regular review of such orders and protocols is conducted by the medical staff and the hospital's nursing and pharmacy leadership to determine the continuing usefulness and safety of the orders and protocols; and*

*(iv) Ensures that such orders and protocols are dated, timed, and authenticated promptly in the patient's medical record by the ordering practitioner or another practitioner responsible for the care of the patient only if such a practitioner is acting in accordance with State law, including scope-of-practice laws, hospital policies, and medical staff bylaws, rules, and regulations.*

## **Interpretive Guidelines §482.24(c)(3)**

### ***What is covered by this regulation?***

*There is no standard definition of a "standing order" in the hospital community at large (77 FR 29055, May 16, 2012), but the terms "pre-printed standing orders," "electronic standing orders," "order sets," and "protocols for patient orders" are various ways in which the term "standing orders" has been applied. For purposes of brevity, in our guidance we generally use the term "standing order(s)" to refer interchangeably to pre-printed and electronic standing orders, order sets, and protocols. However, we note that the lack of a standard definition for*

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# Location of CMS Hospital CoP Manuals

## Medicare State Operations Manual Appendix

Email questions to CMS at [hospitalscg@cms.hhs.gov](mailto:hospitalscg@cms.hhs.gov)

- Each Appendix is a separate file that can be accessed directly from the SOM Appendices Table of Contents, as applicable.
- The appendices are in PDF format, which is the format generally used in the IOM to display files. Click on the red button in the "Download" column to see any available file in PDF.
- To return to this page after opening a PDF file on your desktop, use the browser "back" button. This is because closing the file usually will also close most browsers

CMS Hospital CoP Manuals **new** address

[www.cms.hhs.gov/manuals/downloads/som107\\_Appendixtoc.pdf](http://www.cms.hhs.gov/manuals/downloads/som107_Appendixtoc.pdf)

App. No.	Description	PDF File
A	Hospitals	 <a href="#">2,185 KB</a>
AA	Psychiatric Hospitals	 <a href="#">606 KB</a>

# CoP Manual Also Called SOM

## **State Operations Manual Appendix A - Survey Protocol, Regulations and Interpretive Guidelines for Hospitals**

**Table of Contents**  
*(Rev. 151, 11-20-15)*

[www.cms.hhs.gov/manuals/downloads/som107Appendixtoc.p](http://www.cms.hhs.gov/manuals/downloads/som107Appendixtoc.p)

### [Transmittals for Appendix A](#)

### Survey Protocol

#### Introduction

Task 1 - Off-Site Survey Preparation

Task 2 - Entrance Activities

Task 3 - Information Gathering/Investigation

Task 4 - Preliminary Decision Making and Analysis of Findings

Task 5 - Exit Conference

Task 6 - Post-Survey Activities

Psychiatric Hospital Survey Module

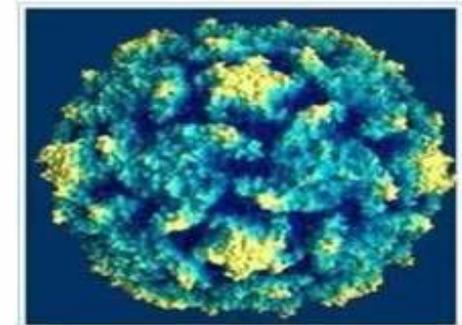
Psychiatric Unit Survey Module

Rehabilitation Hospital Survey Module

Inpatient Rehabilitation Unit Survey Module

Hospital Swing-Bed Survey Module

Email questions  
[hospitalscg@cms.hhs.gov](mailto:hospitalscg@cms.hhs.gov)



**Regulations and Interpretive Guidelines**

# CMS Survey and Certification Website

**CMS.gov**

Centers for Medicare & Medicaid Services

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## Survey & Certification - General Information

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- » [CMS National Background Check Program](#)
- » [Nursing Home Quality Assurance & Performance Improvement Initiative](#)
- » [Revisit User Fee Program](#)
- » [Accreditation](#)
- » **[Policy & Memos to States and Regions](#)**

## Policy & Memos to States and Regions



CMS Survey and Certification memoranda, guidance, clarifications and instructions to State Survey Agencies and CMS Regional Offices.

### Select From The Following Options:

Show all items

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Show only items containing the following word

Show Items

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[www.cms.gov/SurveyCertificationGenInfo/PMSR/list.asp#TopOfPage](http://www.cms.gov/SurveyCertificationGenInfo/PMSR/list.asp#TopOfPage)

**Click on Policy & Memos**

# CMS Survey Memos

## Policy & Memos to States and Regions

CMS Survey and Certification memoranda, guidance, clarifications and instructions to State Survey Agencies and CMS Regional Offices.

<a href="#">Title</a> 	<a href="#">Memo #</a> 	<a href="#">Posting Date</a> 	<a href="#">Fiscal Year</a> 
<a href="#">Certification Number (CCN) State Codes –State Operations Manual (SOM) Section 2779A Revisions</a>	16-09-ALL	2016-03-11	2016
<a href="#">Advance Copy – Interpretive Guidelines for the Organ Transplant Conditions of Participation (CoPs) at 42 Code of Federal Regulations (CFR) §§ 482.68 through 482.104</a>	16-10-Transplant	2016-03-11	2016
<a href="#">National Downtime of the Quality Improvement and Evaluation System (QIES)</a>	16-12-ALL	2016-03-11	2016
<a href="#">Critical Access Hospital (CAH) Recertification Checklist for Evaluation of Compliance with the Location and Distance Requirements</a>	16-08-CAH	2016-02-12	2016
<a href="#">FY 2015 Report to Congress (RTC): Review of Medicare’s Program Oversight of Accrediting Organizations (AOs) and the Clinical Laboratory Improvement Amendments of 1988 (CLIA) Validation Program</a>	16-07-AO	2016-01-29	2016
<a href="#">Medicare Learning Network (MLN) Infection Control Courses</a>	16-06-ALL	2016-01-22	2016

# Access to Hospital Complaint Data

- CMS issued Survey and Certification memo on regarding access to hospital complaint data
- Includes acute care and CAH hospitals
  - Does not include the plan of correction but can request
  - Questions to [bettercare@cms.hhs.com](mailto:bettercare@cms.hhs.com)
- This is the CMS 2567 deficiency data and lists the tag numbers
- Updated quarterly
  - Available under downloads on the hospital website at [www.cms.gov](http://www.cms.gov)

# Access to Hospital Complaint Data

- There is a list that includes the hospital's name and the different tag numbers that were found to be out of compliance
  - Many on restraints and seclusion, EMTALA, infection control, patient rights including consent, advance directives and grievances and **standing orders**
- Two websites by private entities also publish the CMS nursing home survey data and hospitals
- The ProPublica website for LTC
- The Association for Health Care Journalist (AHCJ) websites for hospitals

# Updated Deficiency Data Reports

**CMS.gov**

Centers for Medicare & Medicaid Services

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**Hospitals**

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## Hospitals

This page provides basic information about being certified as a Medicare and/or Medicaid hospital provider and includes links to applicable laws, regulations, and compliance information.

A hospital is an institution primarily engaged in providing, by or under the supervision of physicians, inpatient diagnostic and therapeutic services or rehabilitation services. Critical access hospitals are certified under separate standards. Psychiatric hospitals are subject to additional regulations beyond basic hospital conditions of participation. The State Survey Agency evaluates and certifies each participating hospital as a whole for compliance with the Medicare requirements and certifies it as a single provider institution.

Under the Medicare provider-based rules it is possible for 'one' hospital to have multiple inpatient campuses and outpatient locations. It is not permissible to certify only part of a participating hospital. Psychiatric hospitals that participate in Medicare as a Distinct Part Psychiatric hospital are not required to participate in their entirety.

However, the following are not considered parts of the hospital and are not to be included in the evaluation of the hospital's compliance:

- Components appropriately certified as other kinds of providers or suppliers. i.e., a distinct part Skilled Nursing Facility and/or distinct part Nursing Facility, Home Health Agency, Rural Health Clinic, or Hospice; Excluded residential, custodial, and non-service units not meeting certain definitions in the Social Security Act; and,
- Physician offices located in space owned by the hospital but not functioning as hospital outpatient services departments

**Accredited Hospitals** - A hospital accredited by a CMS-approved accreditation program may substitute accreditation under that program for survey by the State Survey Agency. Surveyors assess the hospital's compliance with the Medicare Conditions of Participation (CoP) for all services, areas and locations covered by the hospital's provider agreement under its CMS Certification Number (CCN).

Although the survey generally occurs during daytime working hours (Monday through Friday), surveyors may conduct

[www.cms.gov/Medicare/Provider-Enrollment-and-Certification/CertificationandCompliance/Hospitals.html](http://www.cms.gov/Medicare/Provider-Enrollment-and-Certification/CertificationandCompliance/Hospitals.html)

# Deficiency Data CMS Hospitals

Section	Tag	July 27, 2016
Administration of Drugs/Standing Orders	405	464
Standing Orders	457	402
Standing Orders for Drugs	406	33
MR Services/Standing Orders/ Date and Time of Order	450	201 <b>Total 740</b>

# CMS Order Sets, Protocols, Standing Orders

- CMS has chosen **not to define** the differences between order sets, standing orders, pre-printed orders, and protocols
- However, in the March 15, 2013 memo CMS says nurses and other staff may administer drugs in accordance with pre-printed and electronic standing orders, orders and protocols which are collectively referred to as “**standing orders**” and effective June 2013 and radiology protocols effective July 10, 2015
  - These must address **well defined clinical scenarios** involving medication administration
  - Refers to MR chapter and created tag 457
  - Moved most of standing order information in tag **405 to 457**
  - So now look at tag numbers **405, 406, 450, and 457 (and radiology)**

# CMS Order Sets, Protocols, Standing Orders

- However, CMS establishes criteria and directions on the process and policy requirements and there are several key points
- Orders and protocols are approved by the Medical Staff (MEC) in conjunction with pharmacy and nursing leadership
- The orders and protocols must be consistent with nationally recognized and evidenced based guidelines

# What is the Difference?

- **What is the difference between an order set, standing order and protocol?**
- An **order set** is a list of individually selectable interventions that the ordering practitioner may choose from
  - Tool designed to help practitioners as they write orders
- An order set is an evidence based statement of best practice in the prevention, diagnosis, or management of a given symptom, disease, or condition for individual patients under normal circumstances

# What is the Difference?

- Examples might include evidenced based order sets (printed or electronic) for:
  - Acute MI, CHF, or Pneumonia,
  - CABG, stroke, asthma, ventilation weaning,
  - Total knee replacement, total hip replacement, hip fracture,
  - Sepsis, flu immunization
- It is important to know what the different organizations standards are such as ENA, ACEP, AORN, ASPAN, CDC, ISMP, etc.

# What is the Difference?

- A **standing order** is an order (orders) that may be initiated without an initial order by the physicians or LIP by the nurse if the patient meets certain criteria
- Standing orders are written documents that contain orders for the patient based on various stipulated clinical situations
- They usually name the condition and prescribe the action to be taken in caring for the patient
- They are commonly used in ICU's, CCUs, and the emergency department
  - Note some hospitals use standing order and protocol interchangeable

# Standing Orders

- Those criteria and the resulting orders require prior approval in policy by the medical staff
- Example; Start an IV in the ED on a patient having chest pain
- Give tetanus (Tdap for an adult) to a patient in the ED who has not had one in the specified period
- Give ACLS drugs to a patient in cardiac arrest
- Example: The surgery center has a pre-op standing order to start an IV on all patients of 1000 cc 0.9 NaCl at 25 cc an hour

# What is the Difference?

- A **protocol** also requires the patient to meet certain clinical criteria, but there must be an order to initiate the protocol
- It is a step by step statement of a procedure routinely used in the care of individual patients to assure that the intended effect is reliably achieved
- Example would be a heparin protocol for a patient having a MI in the emergency department and the physician has ordered the same
- Important thing is to understand the CMS standards for what the hospital is doing

# Example of a Heparin Protocol UW

### DRUGS

<a href="#">Apixaban (Eliquis)</a>	▶
<a href="#">Bivalirudin (Angiomax)</a>	▶
<a href="#">Dabigatran (Pradaxa)</a>	▶
<a href="#">Edoxaban (Savaysa)</a>	▶
<a href="#">Fondaparinux (Arixtra)</a>	▶
<a href="#">Heparin</a>	▶
<a href="#">Low molecular weight heparins (LMWH)</a>	▶
<a href="#">Rivaroxaban (Xarelto)</a>	▶
<a href="#">Warfarin (Coumadin)</a>	▶

### CONDITIONS

<a href="#">Alternative monitoring of antithrombotic therapy</a>	▶
<a href="#">Anticoagulation and neuraxial anesthesia</a>	▶
<a href="#">Bleeding Risk Assessment</a>	▶
<a href="#">Central venous catheter management</a>	▶
<a href="#">Chronic antithrombotic therapy</a>	▶
<a href="#">Guidelines for reversal of anticoagulation</a>	▶
<a href="#">Heparin-induced thrombocytopenia (HIT)</a>	▶
<a href="#">Peri-procedural anticoagulation</a>	▶
<a href="#">VTE</a>	▶

### About UW Medicine Anticoagulation Services

The Anticoagulation Services program at UW Medicine is operated by the UW Medicine Department of Pharmacy.

Services encompass the management of anticoagulant therapy in pharmacist-managed anticoagulation clinics at the University of Washington Medical Center (UWMC), Seattle Cancer Care Alliance (SCCA) and Harborview Medical Center (HMC) as well as coordination of the use of antithrombotic agents in the inpatient setting.

Pharmacist providers are involved in clinical practice, training and education, and research activities consistent with the mission of UW Medicine and the Department of Pharmacy.

*"The goals of pharmacist-managed anticoagulation services include treatment and prevention of thromboembolic disease and minimization of complications of antithrombotic therapy."*

Use the links to the left to navigate through the major sections of this site. The links at the top are the most frequently visited areas. BY USING THE SITE, YOU AGREE TO THE TERMS OF USE. IF YOU DO NOT AGREE, DO NOT USE THE SITE.

[Read more](#)

### NEW GUIDELINES for Conversion ("Switching") From One Anticoagulant to Another

In June 2015, UW Medicine Anticoagulation Services posted guidelines for converting from one anticoagulant to another. See the recommendations under the new purple tab titled "Anticoagulant Conversions ("Switching")" in the upper right hand corner of the home page.

[Read more](#)

### NEW GUIDELINES for Management of Superficial Vein Thrombosis

In May 2015, new UW Medicine Guidelines for Management of Superficial Vein Thrombosis were approved. The new guidelines can be found in the VTE section of this website

[Read more](#)

### 3/10/2015: New Assay for Chromogenic Factor X

UW Medicine Dept of Laboratory Services has obtained a new assay for chromogenic factor X. Corresponding CFX levels equivalent to various INR goal ranges have changed. Please see the section on Alternative Monitoring of Antithrombotic Therapy for further details.

[Read more](#)



### MOST POPULAR

- Suggestions for converting to/from rivaroxaban
- Warfarin maintenance dosing nomogram
- UW Medicine alternative monitoring for antithrombotic agents
- Suggestions for converting to/from apixaban
- LMWH dosing guidelines
- Neuraxial guidelines
- Antithrombotic reversal guidelines
- Warfarin teaching booklets
- Refer a patient
- Washington State Anticoagulation Clinics

<http://depts.washington.edu/anticoag/home/>

# Changes to Heparin Power Plans and Infusions

## Quick Guide for Nurses

### New Power Plans

Provider will choose from:

-  Heparin, Rx Heparin Infusion Standard Protocols
-  Heparin, Rx Heparin Infusion, Provider Managed

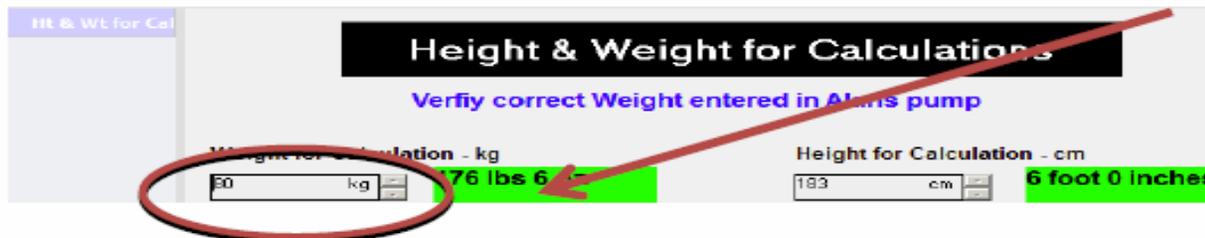
**Standard Protocol** – (*most infusions*) nurse managed adjustments using algorithms **Provider Managed**  
– provider must order **EVERY** dose change

For **Standard Protocol** (nursing managed algorithms) -

\*Loading doses and starting ranges will be based on **INDICATION**

- |                          |   |
|--------------------------|---|
| <input type="checkbox"/> |  Acute Thrombosis Treatment                          |
| <input type="checkbox"/> |  AFib, Valve Replacement, Peri Op Bridging, or Other |
| <input type="checkbox"/> |  Acute Coronary Syndrome                             |
| <input type="checkbox"/> |  Stroke  |

\*Dosing will be **WEIGHT BASED** – Use “Weight for Calculations” in ORCA



The screenshot shows the 'Height & Weight for Calculations' interface. It features a title bar, a subtitle 'Verify correct Weight entered in Alms pump', and two input fields. The 'Weight for Calculation - kg' field is circled in red and contains the value '60'. The 'Height for Calculation - cm' field contains the value '183'. To the right of these fields, the converted values are displayed: '76 lbs 6 oz' and '6 foot 0 inches'. A red arrow points from the top right towards the weight field.

### What you will see on the EMAR

\*Continuous Infusion

**Continuous Infusions**  
  heparin- 25,000 units + Dextrose 5% in Water 250 ml

\*Nurses will make dose adjustments using algorithms

## ***Regular and Low Intensity***

**REGULAR Intensity Algorithm (PTT Goal: 60 to 100)**

PTT (seconds)	PRN RE-BOLUS	INFUSION HOLD TIME	CHANGE INFUSION RATE (units/kg/hr)	NEXT PTT
< 40	ONLY if ordered by provider -- see PRN orders.	None	Increase by 3 units/kg/hr	6 hours
40-49	ONLY if ordered by provider -- see PRN orders.	None	Increase by 2 units/kg/hr	6 hours
50-59	ONLY if ordered by provider -- see PRN orders.	None	Increase by 1 units/kg/hr	6 hours
<b>60-100</b>	<b>None</b>	<b>None</b>	<b>NO CHANGE</b>	<b>6 hours x1, then q AM</b>
101-110	None	None	Decrease by 1 units/kg/hr	6 hours
111-120	None	None	Decrease by 2 units/kg/hr	6 hours
121-150	None	30 minutes	Decrease by 2 units/kg/hr	6 hours
151-199	None	60 minutes	Decrease by 3 units/kg/hr	6 hours

**LOW Intensity Algorithm (PTT Goal: 60 to 80)**

PTT (seconds)	PRN RE-BOLUS	INFUSION HOLD TIME	CHANGE INFUSION RATE (units/kg/hr)	NEXT PTT
< 40	ONLY if ordered by provider -- see PRN orders.	None	Increase by 3 units/kg/hr	6 hours
40-49	ONLY if ordered by provider -- see PRN orders.	None	Increase by 2 units/kg/hr	6 hours
50-59	ONLY if ordered by provider -- see PRN orders.	None	Increase by 1 units/kg/hr	6 hours
<b>60-80</b>	<b>None</b>	<b>None</b>	<b>NO CHANGE</b>	<b>6 hours x1, then q AM</b>
81-100	None	None	Decrease by 1 units/kg/hr	6 hours
101-120	None	30 minutes	Decrease by 2 units/kg/hr	6 hours
121-150	None	60 minutes	Decrease by 2 units/kg/hr	6 hours
151-199	None	60 minutes	Decrease by 3 units/kg/hr	6 hours

**\*\*Check orders to determine which algorithm to use\*\***

### REGULAR Intensity (PTT Goal: 60 to 100)

PTT (seconds)	PRN RE-BOLUS	INFUSION HOLD TIME	CHANGE INFUSION DOSE (units/kg/hr)	NEXT PTT
< 40 (Notify provider for any PTT<50)	ONLY if ordered by provider -- see PRN orders.	None	Increase by 3 units/kg/hr	6 hours
40-49 (Notify provider for any PTT<50)	ONLY if ordered by provider -- see PRN orders.	None	Increase by 2 units/kg/hr	6 hours
50-59 (Notify provider for 2 consecutive PTTs 50-59)	ONLY if ordered by provider -- see PRN orders.	None	Increase by 1 units/kg/hr	6 hours
60-100	None	None	NO CHANGE	6 hrs (after 2 consecutive PTTs in range, check PTT q AM)
101-110	None	None	Decrease by 1 units/kg/hr	6 hours
111-120	None	None	Decrease by 2 units/kg/hr	6 hours
121-150	None	30 minutes	Decrease by 2 units/kg/hr	6 hours
151-199	None	60 minutes	Decrease by 3 units/kg/hr	6 hours

### «LOW» Intensity (PTT Goal: 60 to 80)

PTT (seconds)	PRN RE-BOLUS	INFUSION HOLD TIME	CHANGE INFUSION DOSE (units/kg/hr)	NEXT PTT
< 40 (Notify provider for any PTT<50)	ONLY if ordered by provider -- see PRN orders.	None	Increase by 3 units/kg/hr	6 hours
40-49 (Notify provider for any PTT<50)	ONLY if ordered by provider -- see PRN orders.	None	Increase by 2 units/kg/hr	6 hours
50-59 (Notify provider for 2 consecutive PTTs 50-59)	ONLY if ordered by provider -- see PRN orders.	None	Increase by 1 units/kg/hr	6 hours
60-80	None	None	NO CHANGE	6 hrs (after 2 consecutive PTTs in range, check PTT q AM)
81-100	None	None	Decrease by 1 units/kg/hr	6 hours
101-120	None	30 minutes	Decrease by 2 units/kg/hr	6 hours
121-150	None	60 minutes	Decrease by 2 units/kg/hr	6 hours
151-199	None	60 minutes	Decrease by 3 units/kg/hr	6 hours

# Nevada Board of Nursing

## NEVADA STATE BOARD OF NURSING ADVISORY OPINION

### OPERATIONAL DEFINITIONS FOR PROTOCOL, STANDING ORDERS, AND PREPRINTED ORDER SET

“**Protocol**” means a series of actions (which may include a number of medications) that may be implemented to manage a patient’s clinical status. A protocol allows the application of specific interventions to be decided by the nurse based on the patient meeting certain criteria outlined in the protocol as long as the intervention is within the scope of practice of the nurse. A protocol includes alternative actions or “exceptions” to the prescriptive orders that allows for individual patient circumstance as assessed by the nurse. These “exceptions” are addressed by application of an algorithm that is a step-by-step procedure for solving a problem or accomplishing the intervention. An agency may, if it chooses, have protocols that are developed by authorized practitioners and are designed to standardize and optimize patient care in accordance with current clinical guidelines or standards of practice.

“**Standing orders**” means medical treatment orders generated by an authorized prescriber who identifies an action or medication that must be implemented or administered. The use of standing orders must be documented as an order in the patient’s medical record and signed by the authorized practitioner responsible for the care of the patient, but the timing of such documentation should not be a barrier to effective emergency response, timely and necessary care, or other patient safety advances.

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While there is significant merit to the use of standing orders, there is also the potential for harm to patients if agencies use such orders so that nurses are routinely expected to make clinical decisions outside their scope of practice. This is a complex issue that requires careful consideration by agencies, physicians, nurses and other licensed health care professionals, experts in patient safety and quality improvement, and patients.

**“Preprinted order set”** refers to a tool generally designed to assist authorized practitioners as they write orders. Order sets may include computerized programs that are the functional equivalent of hard copy preprinted order sets. Such tools may include a menu of medications or actions from which the authorized practitioner makes selections to be applied to a particular patient. They sometimes include a standard combination of medications and actions to be followed without amendment whenever the physician selects that order. All orders, preprinted or otherwise, in the medical record must be dated, timed, and authenticated by the person responsible for providing or evaluating the service provided.

#### RESOURCES:

DEPARTMENT OF HEALTH & HUMAN SERVICES

Centers for Medicare & Medicaid Services

Memorandum, October 24, 2008

Reviewed by the Nurse Practice Advisory Committee: 2/10/09

Approved by the Nevada State Board of Nursing: 3/18/09

# What is the Difference?

- **Pre-printed order set** is a set of orders which is printed physician or LIP orders
- This prevents the physicians from having to write all the orders from memory
- Can be specific to a physicians such as their orders for total knee surgery
- Can be pre-printed orders to reflect order sets approved by the Medical Staff to promote best practices and the current evidenced based literature
- Has the potential to improve patient safety and outcomes

# Preprinted Orders Vs Order Sets

- In some hospitals, preprinted orders were traditionally individual physician specific
- Order sets replaced these traditional ones in some hospitals
- Order sets in some hospitals are diagnosis specific and based on published guidelines and research
- Order sets are implemented only by the physician or licensed independent practitioner (LIP) or their delegate
  - Insulin order set, cellulitis order set, ACS thrombolytic therapy order set, newborn circumcision order set

## Appendix

### Creating Preprinted Physician Orders for Clinical “best practice” Review [www.ahrq.gov/downloads/pub/advances2/vol2/Advances-](http://www.ahrq.gov/downloads/pub/advances2/vol2/Advances-)

Criteria for consideration when creating or revising preprinted physician orders [Ehringer, 1](#)

Content and Format		Yes
1	Orders reflect current “best practice”	
2	Orders are created in Arial 10- or 12-point font	
3	Orders do not contain unapproved abbreviations	
4	Orders do not contain confusing symbols (e.g., < and >)	
5	Blanket orders are not used. (i.e., Resume home meds).	
7	Order contains space for physician signature, physician ID #, and date	
8	Admission orders include “Admit as inpatient,” “Outpatient,” or “Observation Status,” as appropriate	
9	Orders are single-sided (Reverse side of sheet should contain additional information or references only)	
Medication Safety		Yes
10	Abbreviations, when used, are kept to a minimum	
11	Medication orders are not numbered	
12	Medication orders contain drug name, dose, route, and frequency	
13	If multiple routes are listed, order contains criteria to determine which route to use	
14	When possible, order contains dose written as mg, and not as tablets or mL	
15	Order does not contain multiple ranges	
16	Order contains indication for PRN medications	
17	Time frame is written for IV bolus / IV push orders	
18	Generic and trade names (if applicable) of medication are used	

#### Actions by the Clinical “Best Practice” Committee (CBP) may include:

	Arranging presentation of orders according to standardized format
	Adding indications of regulatory / Performance measures, etc.
	Adding DVT prophylaxis, vaccination status, smoking counseling, patient education, etc

# So What's In Your Policy?

## **PRE-PRINTED PROVIDER ORDER SETS**

- All pre-printed orders shall be created and approved by the appropriate FHS IDT or Leadership Team and provided on FHS forms. The FHS pre-printed orders have been reviewed, approved and aligned with medical staff rules and regulations, hospital policy, Joint Commission, CMS, Department of Health, FHS formulary and other relevant regulatory agencies.
- All relevant order sets involving medication are additionally reviewed by Pharmacy and the PT&T Committee and as needed the Medication Safety Leadership Team to ensure appropriate medication prescribing and ordering practices are followed.
- The Pre-Printed Provider Order Set process is supported centrally by the Clinical Effectiveness Division and its oversight Provider Orderset Standardization and Implementation Workgroup (POSSI).
- The use of pre-printed orders must be individualized, documented as an order in the patient's medical record and authenticated by a practitioner responsible for the care of the patient and authorized by the Medical Staff and state law scope of practices.
- The registered nurse verifies that the orders have been processed and indicates the time, date and signature next to the order.
- A Registered nurse may complete the order sets through use of verbal or telephone orders from an authorized practitioner provided that the orders are read back to the practitioner per policy.
- Items on the order set that do not have a box to check or are pre-checked are intended to be used for all patients. These items may be denoted by a bullet point or dash.
- Items that have a checkbox in front of them are only carried out if the box is checked. This provides customization to fit the individual patient needs and/or practitioner preference.
- Items without a checkbox or pre-checked that the physician does not want ordered must be lined out and initialed.
- Note: Some of the pre-printed orders have multiple choices within the individual medication sections as denoted by a line preceding the medication. Examples include oral/IV analgesics or anti-emetics. If there is no guidance provided as to the preferential order for medication administration.

# So What's in Your Policy?

**Standing medical orders:** Orders, rules, regulations or procedures prepared by a physician or approved by a physician or the medical staff of an institution **for patients which have been examined or evaluated by a physician and which are used as a guide in preparation for and carrying out medical and/or surgical procedures.** These orders, rules, regulations or procedures are authority and direction for the performance of certain prescribed acts for patients by authorized persons, as distinguished from specific orders written for a particular patient.

**Protocols:** This term is defined narrowly by the TSBME and applies to Advanced Practice Nurses (APN) by the BON or to Physician Assistants as defined by TSBME. Delegated written authorization to initiate medical aspects of patient care, including authorizing a PA or APN to carry out or sign prescription drug orders pursuant to the Medical Practice Act (Texas Occupations Code §§157.051-157.060 and §193.6 (relating to the Delegation of the Carrying Out or Signing of Prescription Drug Orders to PAs and APNs). Protocols must be agreed upon and signed by the physician and the PA and/or APN, reviewed and signed at least annually, maintained onsite, and must contain a list of the types or categories of dangerous drugs available for prescription, limitations on the number of dosage units and refills permitted, and instructions to be given to the patient for follow-up monitoring or contain a list of the types or categories of dangerous drugs that may not be prescribed. Protocols shall be defined to promote the exercise of professional judgment by the PA or APN commensurate with their education and experience. Protocols used by a reasonable and prudent physician exercising sound medical judgment need not describe the exact steps that a PA or APN must take with respect to each specific condition, disease, or symptom.

## **XII. Relevant Federal and State Statutes**

Texas State Board of Medical Examiners Scope of Standing Delegation Orders (22 Tex. Admin. Code §193.4)

## **XIII. Related UTMB Policies and Procedures**

Prescription Refills in UTMB Access Center and Clinics

## **XIV. Additional References**

# What is the Difference?

- **A health care guideline** is an evidence-based statement of best practice in the prevention, diagnosis, or management of a given symptom, disease, or condition for individual patients under normal circumstances
- CMS requires that standards of practice and standards of care be entered into P&P and guidelines
- Examples: The CDC intravascular guidelines, CDC guidelines to prevent catheter associated UTI, CDC hand hygiene guidelines, ISMP IV Push guidelines etc.

# ISMP Guidelines for Order Sets

## *ISMP DEVELOPS GUIDELINES FOR STANDARD ORDER SETS*

*From the March 11, 2010 issue*

[www.ismp.org/Tools/guidelines/default.asp](http://www.ismp.org/Tools/guidelines/default.asp)

ISMP has long been an advocate for the use of standard order sets to minimize incorrect or incomplete prescribing, standardize patient care, and ensure clarity when communicating medical orders.(1-3) Whether in electronic or paper format, well-designed standard order sets have the potential to:

- Integrate and coordinate care by communicating best practices through multiple disciplines, levels of care, and services(4)
- Modify practice through evidence-based care(4)
- Reduce variation and un-intentional oversight through standardized formatting and clear presentation of orders(1-4)
- Enhance workflow with pertinent instructions that are easily understood, intuitively organized, and suitable for direct application to current information-management systems and drug administration devices(1-4)
- Reduce the potential for medication errors through integrated safety alerts and reminders(1-4)
- Reduce unnecessary calls to prescribers for clarifications and questions about orders. (1-4)

However, if standard orders are not carefully designed, reviewed, and maintained to reflect best practices and ensure clear communication, they may actually contribute to errors—many of which have been described in our newsletters and still occur today. In fact, the ISMP consulting team often identifies dozens of serious problems related to the content, format, and approval/maintenance of standard order sets when visiting healthcare organizations of all sizes and types. Below we describe the importance of paying careful attention to the design and maintenance of standard order sets as well as provide examples of commonly observed problems that can lead to serious errors. ***Guidelines for Standard Order Sets*** to help avoid these problems can be found on our Web site at: [www.ismp.org/Tools/guidelines/default.asp](http://www.ismp.org/Tools/guidelines/default.asp).

### **Content**

Careful attention to the content of standard order sets helps ensure they: 1) are complete, 2) include important orders beyond what the prescriber may initially consider (e.g., specific monitoring requirements), 3) reflect current best practices,

## FORMAT

### LAYOUT AND DIRECTIONS FOR USE

- Follows an official standard format that has been approved by an appropriate interdisciplinary committee (e.g., pharmacy and therapeutics committee, safety committee, forms committee)
- Identifies the order set name at the top of the form/screen and, as appropriate, specifies the targeted patient population (e.g., adult, pediatric, neonatal, adult oncology)
- Differentiates similar order sets employed for similar conditions (e.g., different heparin order sets based on various clinical conditions)
- Includes directions for completing the order set at the top of the form/screen
- Uses a standard method (e.g., check boxes, circling) for prescribers to activate/select desired orders that minimizes confusion regarding how inactivated/unselected orders are to be interpreted (e.g., yes/no check boxes may be problematic regarding correct interpretation if the physician checks neither the yes nor no option; with paper order sets, a single box to check—activate—an order may be less error-prone)
- Separates orders into logical groupings of treatment, procedure, and medication orders
- Uses separate lines/entries for each medication order; multiple orders do not appear on one line or within a single entry
- Includes the name of the drug and dose/strength on the same line/entry
- Avoids listing products with look-alike names near each other
- Lists the most common or preferred drug, strength, and dose first, if multiple drugs, strengths, and doses are available from which to choose
- Uses "OR" to indicate when choices between products must be made and includes specific guidance regarding that choice
- Provides adequate space between the medication name and dose (e.g., "propranolol 20 mg, not propranolol20 mg, which may look like 120 mg), and between the numerical dose and unit of measure (e.g., 3 units, not 3Units, which can look like 30 units)
- Provides adequate space between numbers used to sequence orders and the actual orders themselves (to prevent misinterpretation of the

# ACEP Nurse Implemented Order Sets

The screenshot displays the ACEP website interface. At the top, the ACEP logo is on the left, and navigation links for 'Join ACEP', 'My ACEP', 'Account Settings', and 'Welcome Guest, Login' are on the right. Below the logo, there are links for 'Home', 'News Media', 'Contact Us', and 'About Us', along with a search bar. A secondary navigation bar lists 'Clinical & Practice Management', 'Continuing Education', 'Professional Development', 'Meetings & Events', 'Advocacy', 'Membership', and 'Bookstore'. The breadcrumb trail shows 'Clinical & Practice Management > ACEP Policy Statements'. A 'Print', 'Email', and 'Share This' section is also present. The main content area features a banner image of a hand using a stethoscope with the text 'Clinical & Practice Management'. Below this is a sidebar with a 'Clinical & Practice Management' menu where 'Policy Statements' is selected. The main article is titled 'Use of Nurse Implemented Order Sets' and is dated 'Approved by the ACEP Board of Directors June 2010'. The article text states that ACEP recognizes the practice of utilizing nurse implemented order sets as predetermined collections of departmental orders consistent with high-quality emergency care. A right sidebar contains 'Related Links' such as 'Anonymous Affidavits of Merit' and 'Quality Improvement Initiatives for the Care of Geriatric Patients in the ED'. A 'Feedback' icon is at the bottom right. A 'Chat Now' button is visible on the right edge of the page.

American College of  
Emergency Physicians\*  
ADVANCING EMERGENCY CARE

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Clinical & Practice Management > ACEP Policy Statements

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## Clinical & Practice Management

### Clinical & Practice Management

- Clinical Policies >
- Policy Statements** ▾
- Residency Programs >
- EMS Resources >
- Disaster Preparedness Resources >
- Resources >
- DART - Treating Sepsis >
- Find a Physician Group >

## Use of Nurse Implemented Order Sets

Approved by the ACEP Board of Directors June 2010

The American College of Emergency Physicians (ACEP) recognizes the practice of utilizing nurse implemented order sets. These sets are predetermined collections of departmental orders initiated based upon nursing assessment of the patient and are consistent with high-quality emergency care, enhanced patient safety and satisfaction.

It is the position of the College that the use of such order sets does not, in and of itself, create a physician-patient relationship.

[www.acep.org/content.aspx?id=48946](http://www.acep.org/content.aspx?id=48946)

### Related Links

#### Policy Statements >

- » Anonymous Affidavits of Merit
- » Quality Improvement Initiatives for the Care of Geriatric Patients in the ED
- » Out-of-Hospital Medical Direction and the Intervener Physician
- » CME Burden
- » Pedestrian Injury Prevention

#### Information Technology & Data >

- » Emergency Medicine Telemedicine

Feedback

Chat Now

# Often Used in ED for MI, Strokes, Anaphylaxis

## EMERGENCY STANDING ORDERS

*Nurse initiated standing order based on medical staff approved policy (6019).  
Orders with a "☐" are indicator choices and are NOT implemented unless checked. Initial bottom of each page.*

**RN:** May be initiated by Charge Nurse, Nursing Unit Supervisor, CNS or Nurse Clinician  
Call MRT as needed while implementing orders below  
Call physician while below actions are in progress  
Check box below to indicate which standing order was used during the emergency

### **Preliminary Actions for All Patients with Change in Condition:**

1. Obtain/Confirm IV Access
2. Place patient on telemetry/cardiac monitoring
3. O<sub>2</sub> protocol (form # 34431)
4. Assess vital signs, Circulation, Airway, Breathing

### **Chest Pain/Suspected Myocardial Infarction:**

For patients exhibiting signs and symptoms of myocardial ischemia as evidenced by at least one of the following:

- Acute onset of substernal chest pain lasting > 2 minutes
  - Pain radiating to arms, neck, jaw or back
  - Nausea, vomiting
  - Diaphoresis
1. Chest Pain box to patient's bedside
  2. Obtain EKG stat
  3. Nitroglycerin 0.4 mg sublingual q 5 min x 3 doses prn if systolic BP > 100

- ❑ **Tachycardia or bradycardia:**  
For symptomatic (low BP, weakness, shortness of breath, pallor, diaphoresis) patients with heart rate > 120 or < 40 beats/min
  
- ❑ **Suspected Pulmonary Edema/Acute Respiratory Distress/Acute Shortness of Breath:**  
For all patients exhibiting signs and symptoms of acute respiratory distress as evidenced by at least one of the following:
  - Rapid, labored breathing
  - Rales and wheezes
  - Productive cough with frothy sputum
  - Diaphoresis
  - Cyanosis
  1. ABG STAT
  2. Portable Chest X-ray STAT
  3. Ambu bag and suction set-up to bedside
  
- ❑ **Treatment of Anaphylaxis:**  
If the patient exhibits signs and symptoms of anaphylaxis as evidenced by: hives, angioedema, tongue or throat swelling, swelling of the conjunctiva, shortness of breath, wheezing or stridor:
  1. EPINEPHrine 1 mg/ml ampule: Give 0.5 mg IM in the mid outer thigh. If anaphylaxis symptoms are not reversed in 5-15 minutes, repeat x 1 dose.
  2. Benadryl (diphenhydramine) 25 mg IV push x 1 dose
  3. Pepcid (famotidine) 20 mg IV push x 1 dose
  4. Solu-Medrol (methylprednisolone) 125 mg IV push x 1 dose

*Nurse initiated standing order based on medical staff approved policy (6019).*

*Orders with a "☐" are indicator choices and are NOT implemented unless checked. Initial bottom of each page.*

**Narcotic-Induced Respiratory Depression:**

Following administration of an opiate (narcotic) analgesic, if the patient exhibits signs and symptoms of respiratory depression as evidenced by respiratory rate  $\leq 8$  breaths per min or apnea or agonal respirations:

1. Assess ABCs (airway, breathing and circulation)
2. Assist ventilation with bag valve mask and supplemental O<sub>2</sub> if required; Ambu bag to bedside
3. Narcan (naloxone) 0.4 mg in 10 ml Normal Saline (0.04 mg/ml). Administer 1 ml IV q 2 min prn until respiratory rate  $\geq 10$  or a max of 2 mg (5 doses)
4. If IV route is not available, administer undiluted Narcan (naloxone) 0.4 mg SQ or IM q 5 min prn until respiratory rate  $\geq 10$  or a max of 2 mg (5 doses)

**Benzodiazepine-Induced Respiratory Depression:**

Following administration of a benzodiazepam {examples include: Versed (midazolam), Xanax (alprazolam), Ativan (lorazepam), Valium (diazepam)}, if the patient exhibits signs and symptoms of respiratory depression as evidenced by respiratory rate  $\leq 8$  breaths per min or apnea or agonal respirations

1. Assess ABCs (airway, breathing and circulation)
2. Assist ventilation with bag valve mask and supplemental O<sub>2</sub> if required; Ambu bag to bedside
3. Romazicon (flumazenil) 0.2 mg IV q 1 min prn until respiratory rate  $\geq 10$  or max of 1 mg (5 doses)

**Symptomatic Hypotension ( $\geq 40$  mm Hg drop in systolic baseline):**

1. Place patient in modified Trendelenburg position by leaving the head flat and elevating the patient's legs (do not place in Trendelenburg)
2. Remove topical that may cause hypotension, i.e. Nitroglycerin patch or paste, Duragesic (fentanyl) patch, and/or Catapres (clonidine) patch

# CMS Requirements

- So what are the CMS requirements for order sets, protocols, pre-printed orders and standing orders?
  - Any hospital that accepts Medicare or Medicaid must follow these for all hospital patients
- CMS included a section in the June 7, 2013 changes to the Federal Register and added to tag 457
- CMS has now a total four sections on standing orders; tag 405, 406, 450, and 457 (and see radiology protocols)
  - Remember most of the information in tag 405 was moved to 457
- The development of protocols and standing orders is best described as a journey

# Standing Orders, Protocols, Order Sets

- First, CMS said that a physician order was needed first and that standing orders had to be initiated before one could implement them
  - Hospitals argued this is not what the federal register said.
- CMS agrees and issues changes to the CoP manual October 17, 2008
- CMS issues “Standing Orders in Hospitals” memo October 24, 2008, S&C 12-5
  - It amended Tag 406 and 450 (which gets amended again June 5, 2009, March 15, 2013 IG, June 7, 2013)

# Standing Order Memo

DEPARTMENT OF HEALTH & HUMAN SERVICES  
Centers for Medicare & Medicaid Services  
7500 Security Boulevard, Mail Stop S2-12-25  
Baltimore, Maryland 21244-1850



Center for Medicaid and State Operations/Survey and Certification Group

Ref: S&C-09-10

**DATE:** October 24, 2008

**TO:** State Survey Agency Directors

**FROM:** Director  
Survey and Certification Group

[www.cms.gov/SurveyCertificationGenInfo/PMSR/list.asp#To pOfPage](http://www.cms.gov/SurveyCertificationGenInfo/PMSR/list.asp#To pOfPage)

**SUBJECT:** “Standing Orders” in Hospitals – Revisions to S&C Memoranda

## Memorandum Summary

- A. Standing Order Clarification:** We are clarifying a portion of S&C-08-12 and S&C-08-18, issued on February 8 and April 11, 2008 respectively, regarding use of standing orders in hospitals. The use of standing orders must be documented as an order in the patient’s medical record and signed by the practitioner responsible for the care of the patient, but the timing of such documentation should not be a barrier to effective emergency response, timely and necessary care, or other patient safety advances.
- B. Future Directions:** We express our interest in working with the professional

# Revised Tag 405 and 406

Old Tag	New Tag
<p><b>A -0404 – combine with A-0405</b>            §482.23(c)(1) (ii)– Drugs and biologicals may be prepared and administered on the orders contained within pre-printed and electronic standing orders, order sets, and protocols for patient orders only if such orders meet the requirements of §482.24(c)(3).</p> <p><b>A -0405</b>            (1) - All drugs and biologicals must be administered by, or under supervision of, nursing or other personnel in accordance with Federal and State laws and regulations, including applicable licensing requirements, and in accordance with the approved medical staff policies and procedures.</p>	<p><b>A-0405</b></p> <p><b>§482.23(c) Standard: Preparation and administration of drugs.</b></p> <p><i>(1) Drugs and biologicals must be prepared and administered in accordance with Federal and State laws, the orders of the practitioner or practitioners responsible for the patient’s care as specified under §482.12(c), and accepted standards of practice.</i></p> <p><i>(i) Drugs and biologicals may be prepared and administered on the orders of other practitioners not specified under §482.12(c) only if such practitioners are acting in accordance with State law, including scope of practice laws, hospital policies, and medical staff bylaws, rules, and regulations.</i></p> <p>§482.23(c)(2) All drugs and biologicals must be administered by, or under supervision of, nursing or other personnel in accordance with Federal and State laws and regulations, including applicable licensing requirements, and in accordance with the approved medical staff policies and procedures.</p>
<p><b>A-0406</b></p>	<p><b>A-0406</b></p> <p><i>§482.23(c)(1) (ii)– Drugs and biologicals may be prepared and administered on the orders contained within pre-printed and electronic standing orders, order sets, and protocols for patient orders only if such orders meet the requirements of §482.24(c)(3).</i></p> <p>§482.23(c)(3)- With the exception of influenza and pneumococcal polysaccharide vaccines, which may be administered per physician-approved hospital policy after an assessment of contraindications, orders for drugs and biologicals must be documented and signed by a practitioner who is authorized to write orders in accordance with State law and hospital policy and who is responsible for the care of the patient as specified under §482.12(c).</p> <p><i>§482.23(c)(3)(iii) Orders for drugs and biologicals may be documented and signed by other practitioners not specified under §482.12(c) only if such practitioners are acting in accordance with State law, including scope of practice laws, hospital policies, and medical staff bylaws, rules, and regulations.</i></p>

# Tag 405 Standing Orders 2014

- Most of the sections on standing orders were moved to tag 457
- CMS says drugs must be administered in response to an order from a practitioner or on the basis of a **standing order**
- The standing order must subsequently be signed off or authenticated by the practitioner
  - This includes a date and time along with the signature
- The surveyor is to determine if there is a standing order and the right medications was given to the patient

# Tag 405 Amended in 2014 & 2015

DEPARTMENT OF HEALTH & HUMAN SERVICES  
Centers for Medicare & Medicaid Services  
7500 Security Boulevard, Mail Stop C2-21-16  
Baltimore, Maryland 21244-1850



Center for Clinical Standards and Quality/Survey & Certification Group

Ref: S&C: 14-15-Hospital

**DATE:** March 14, 2014

**TO:** State Survey Agency Directors

**FROM:** Director  
Survey and Certification Group

**SUBJECT:** Requirements for Hospital Medication Administration, Particularly Intravenous (IV) Medications and Post-Operative Care of Patients Receiving IV Opioids

## Memorandum Summary

- **Medication Administration:** We are updating our guidance for the hospital medication administration requirements to:
  - Make clear that the medication administration requirements under the nursing services condition of participation (CoP) are related to only some components of the overall hospital medication process, but that hospitals are expected, through this and the related requirements under the pharmaceutical services and quality assessment/performance improvement CoPs, to take a comprehensive approach to the medication process.
  - Update our guidance for IV medications and blood transfusions in general; and
  - Reflect the need for patient risk assessment and appropriate monitoring during and after medication administration, particularly for post-operative patients receiving IV opioid medications, in order to prevent adverse events.
- **Immediate Post-operative Care:** Clarification is also being made to the guidance for the surgical services CoP requirement for hospitals to have adequate provisions for immediate

# Final Transmittal Issued June 6, 2014

## CMS Manual System

Pub. 100-07 State Operations  
Provider Certification

Transmittal 116

Department of Health &  
Human Services (DHHS)  
Centers for Medicare &  
Medicaid Services (CMS)

Date: June 6, 2014

**SUBJECT:** Revised State Operations Manual (SOM), Appendix A, Survey Protocol, Regulations and Interpretive Guidelines for Hospitals

**I. SUMMARY OF CHANGES:** Clarification is provided for various provisions of 42 CFR 482.23(c), concerning medication administration, and 42 CFR 482.51(b)(4), concerning post-operative patient care.

**NEW/REVISED MATERIAL - EFFECTIVE DATE:** June 6, 2014  
**IMPLEMENTATION DATE:** June 6, 2014

*The revision date and transmittal number apply to the red italicized material only. Any other material was previously published and remains unchanged. However, if this revision contains a table of contents, you will receive the new/revised information only, and not the entire table of contents.*

**II. CHANGES IN MANUAL INSTRUCTIONS:** (N/A if manual not updated.)  
(R = REVISED, N = NEW, D = DELETED) – (Only One Per Row.)

R/N/D	CHAPTER/SECTION/SUBSECTION/TITLE
R	Appendix A/Survey Protocol, Regulations and Interpretive Guidelines for Hospitals/A-0405/§482.23(c)Standard: Preparation and Administration of Drugs
R	Appendix A/Survey Protocol, Regulations and Interpretive Guidelines for Hospitals/A-0409/§482.23(c)(4)Blood transfusions and intravenous medications must be administered in accordance with State law and approved medical staff policies and procedures.
R	Appendix A/Survey Protocol, Regulations and Interpretive Guidelines for Hospitals/A-0412/§482.23(c)(6)The hospital may allow a patient (or his or her caregiver/support person where appropriate) to self-administer both hospital-issued medications and the patient's own medications brought into the hospital, as defined and specified in the hospital's policies and procedures.
R	Appendix A/Survey Protocol, Regulations and Interpretive Guidelines for Hospitals/A-0957/§482.51(b)(4)There must be adequate provisions for immediate post-operative care.

[www.cms.gov/Regulations-and-Guidance/Transmittals/Downloads/R116SOMA.pdf](http://www.cms.gov/Regulations-and-Guidance/Transmittals/Downloads/R116SOMA.pdf)

# 405 Changed Compounding BUD

## **State Operations Manual Appendix A - Survey Protocol, Regulations and Interpretive Guidelines for Hospitals**

**Table of Contents**  
*(Rev. 151, 11-20-15)*

[www.cms.hhs.gov/manuals/downloads/som107Appendixtoc.p](http://www.cms.hhs.gov/manuals/downloads/som107Appendixtoc.p)

### [Transmittals for Appendix A](#)

### Survey Protocol

#### Introduction

Task 1 - Off-Site Survey Preparation

Task 2 - Entrance Activities

Task 3 - Information Gathering/Investigation

Task 4 - Preliminary Decision Making and Analysis of Findings

Task 5 - Exit Conference

Task 6 - Post-Survey Activities

Psychiatric Hospital Survey Module

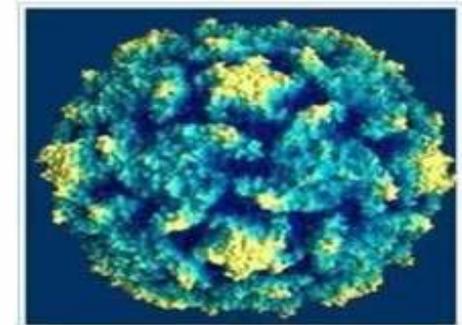
Psychiatric Unit Survey Module

Rehabilitation Hospital Survey Module

Inpatient Rehabilitation Unit Survey Module

Hospital Swing-Bed Survey Module

Email questions  
[hospitalscg@cms.hhs.gov](mailto:hospitalscg@cms.hhs.gov)



**Regulations and Interpretive Guidelines**

# Tag 406, 407, and CMS 2008 Memo

- **Standard:** Drugs and biologicals must be prepared on the orders contained within pre-printed and electronic standing orders, order sets, and protocols only if meets the requirements of tag 457
  - Again, order can be signed by physician or practitioner (like a PharmD, NP or PA) who is allowed by state law, hospital P&P, and the Medical Staff
- Tag 406 requires that all orders for drugs and biologicals must include things like the name of the patient, date and time of the order, weight if applicable (be sure to only get weights on children in kilograms and not pounds), drug name, dosage, frequency, etc.

# Tag 406 Flu and Pneumovac

- Order must be documented in the chart
  - Reiterated that flu and pneumonia vaccines can be administered per physician approved hospital policy after an assessment of the contraindications
  - There is no requirement for the physician or other practitioner to sign or authenticate the order
  - The Joint Commission recognizes the same exception



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## Standing Orders for Administering DTaP to Children Younger than Age 7 Years

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**Purpose:** To reduce morbidity and mortality from tetanus, diphtheria, and pertussis by vaccinating all infants and children who meet the criteria established by the Centers for Disease Control and Prevention's Advisory Committee on Immunization Practices.

**Policy:** Under these standing orders, eligible nurses and other healthcare professionals (e.g., pharmacists), where allowed by state law, may vaccinate infants and children who meet the criteria below.

### Procedure

1. Identify infants and children ages 2 months through 6 years who have not completed a diphtheria, tetanus, and acellular pertussis (DTaP) vaccination series.
2. Screen all patients for contraindications and precautions to DTaP:
  - a. **Contraindications:**
    - a history of a severe allergic reaction (e.g., anaphylaxis) after a previous dose of DTaP or to a DTaP component. For a list of vaccine components, go to [www.cdc.gov/vaccines/pubs/pinkbook/downloads/appendices/B/excipient-table-2.pdf](http://www.cdc.gov/vaccines/pubs/pinkbook/downloads/appendices/B/excipient-table-2.pdf).
    - a history of encephalopathy (e.g., coma, decreased level of consciousness; prolonged seizures) not attributable to another identifiable cause within 7 days of a previous dose of pertussis-containing vaccine.
  - b. **Precautions:**
    - moderate or severe acute illness with or without fever
    - history of arthus-type hypersensitivity reactions after a previous dose of tetanus or diphtheria toxoid-containing vaccine; defer vaccination until at least 10 years have elapsed since the last tetanus-toxoid containing vaccine
    - progressive or unstable neurologic disorder (including infantile spasms for DTaP), uncontrolled seizures, or progressive encephalopathy until a treatment regimen has been established and the condition has stabilized
    - fever of 105° F (40.5° C) or higher not attributable to another cause within 48 hours of a previous dose of DTaP
    - collapse or shock-like state (i.e., hypotensive hyporesponsive episode) within 48 hours of a previous dose of DTaP
    - seizure within 3 days of a previous dose of DTaP
    - persistent, inconsolable crying lasting more than 3 hours that occurred within 48 hours of a dose of DTaP
    - history of Guillain-Barré syndrome within 6 weeks of previous dose of tetanus toxoid-containing vaccine
3. Provide all patients (or, in the case of minors, their parent or legal representative) with a copy of the most current federal Vaccine Information Statement (VIS). You must document in the patient's medical record or office log, the publication date of the VIS

# Vaccine Standing Order Program

American Journal of Health-System Pharmacy

## Designing and Implementing a Hospital-Based Vaccine Standing Orders Program

Denise R. Sokos, Pharm.D., BCPS; Susan J. Skledar, B.S.Pharm., M.P.H.; Kelly A. Ervin, CPHT; Mary Patricia Nowalk, Ph.D., R.D.; Richard K. Zimmerman, M.D., M.P.H.; Dwight E. Fox, D.M.D.; Donald B. Middleton, M.D.

### Disclosures

Am J Health Syst Pharm. 2007;64(10):1096-1102.

Comment



Print

### References

### Steps in Implementation of a Vaccine SOP

The SOP eliminated the need for a patient-specific signed physician order; however, a significant issue to resolve was the need for the order to be in a recognizable format to facilitate detection and follow-through by the nursing staff. Therefore, the design of the standing order form was of critical importance. We designed it to resemble other physician order forms at our institution (Figure 1). We combined the patient risk assessment form with the actual vaccination order form to familiarize staff with the vaccination process. The patient risk assessment includes the Advisory Committee on Immunization Practices (ACIP) recommendations for assigning a patient's disease risk, contraindications to vaccination, and previous vaccination history.<sup>[1,17]</sup> The order specifies the vaccine administration date and time (e.g., "admission day 2 at 1700") and provides parameters for intramuscular or subcutaneous administration. The expert team determined that day 2 of admission was the earliest time that vaccination could practically be approached during the inpatient stay. This time frame was optimal, leaving adequate time for screening admissions, writing orders, allowing physicians to cancel the order if they chose, delivering the vaccine to the unit, educating patients, and administering the vaccine to consenting patients. However, we discovered that vaccine doses were being omitted because of morning and early afternoon discharges on admission day 2. The order was revised and currently specifies to administer the vaccine "now," and it stays active on the patient's profile until the vaccine is administered, refusal is charted, or the patient is discharged.

[www.medscape.com/viewarticle/557741\\_5](http://www.medscape.com/viewarticle/557741_5)



Pneumococcal polysaccharide vaccine assessment and standing order form.



**PHYSICIAN ORDER SET**

AUTHORIZATION IS GIVEN TO THE PHARMACY TO DISPENSE AND TO THE NURSE TO ADMINISTER THE GENERIC OR CHEMICAL EQUIVALENT WHEN THE DRUG IS FILLED BY THE PHARMACY OF THE UPMC HEALTH SYSTEM HOSPITAL - UNLESS THE PRODUCT NAME IS CIRCLED

IMPRINT PATIENT IDENTIFICATION HERE

**Pneumococcal Polysaccharide Vaccine Assessment and Standing Order Form**

Check all boxes that apply with a

**Risk Assessment - No Active Orders**

**Step 1: Determine the patient's risk:**

- Age ≥ 65 years. **Proceed to Step 2.**
- Age 2 – 64 years with any of the following:  
*Chronic illnesses*: cardiovascular disease, pulmonary disease (not asthma), diabetes mellitus, alcoholism, liver disease, sickle cell anemia, cerebrospinal fluid leaks, cochlear implant recipients, **and/or** is *immunocompromised*: HIV infection, leukemia, lymphoma, Hodgkins disease, multiple myeloma, generalized malignancy, asplenic, chronic renal failure, nephrotic syndrome, organ or bone marrow transplantation, immunosuppressive medications.  
**Proceed to Step 2.**
- Age 2-64 years and an Alaskan native or of other Native American descent. **Proceed to Step 2.**
- Age 2-64 years with no risk factors. **Proceed to Order Section and check "do not administer vaccine" box.**

**Step 2: Assess for contraindications:**

- Hypersensitivity to vaccine component.  
**Proceed to Order Section and check "do not administer vaccine" box**
- Severe reaction to prior pneumococcal vaccine.  
**Proceed to Order Section and check "do not administer vaccine" box**
- Patient received chemotherapy within the last three months or may receive chemotherapy within two weeks.  
**Proceed to Order Section and check "do not administer vaccine" box**
- Patient's vaccinations are evaluated and administered in outpatient clinic/office  
**Proceed to Order Section and check "do not administer vaccine" box**
- No contraindications noted from available information:  
**Proceed to Step 3.**

**Order Section**

- Administer pneumococcal polysaccharide vaccine 0.5 ml:
  - deep IM in deltoid
  - Subcutaneous if INR > 1.5 or platelets < 100,000
  - Subcutaneous if patient is on heparin drip or warfarin

and give:

- Now
- on \_\_\_\_\_ at \_\_\_\_\_:00

- Do NOT administer pneumococcal vaccine.

Signature: \_\_\_\_\_

Printed Name: \_\_\_\_\_

# Tag 406 Order Required

- Your state law sets forth the scope of practice and not CMS and determines if the person is a LIP such as nurse practitioners
- Orders may also be provided by others who are authorized such as podiatrists, nurse practitioner, pharmacists, dentists, optometrist, chiropractor, or clinical psychologists
- CMS does not want to be an obstacle to what state law permits so for example if state allow PharmD to manage anticoagulant clinic will allow to sign off order if done by MS approved protocol (July 16, 2012 FR)

# CMS Changes July 11, 2014

- CMS published some final changes to hospital CoP on May 7, 2014 and in FR May 11, 2014
- Several are important to the CMS dietary CoPs
  - Reiterated about not restricting scope of practice and deferring to the state law and state scope of practice
- Practitioner such as dietician (4-1-2015) and pharmacist can be C&P and either a member or not a member of the MS
  - So if state allows, board and MS can credential dieticians to order diet including TPN, therapeutic diet & supplemental feedings

# Final Federal Register Changes

## **DEPARTMENT OF HEALTH AND HUMAN SERVICES**

### **Centers for Medicare & Medicaid Services**

**42 CFR Parts 413, 416, 440, 442, 482, 483, 485, 486, 488, 491, and 493**

[CMS-3267-F] [www.ofr.gov/\(S\(5jsvwwmsi4nfjrynav20ebeq\)\)/OFRUpload/OFRData/2014-10687\\_PI.pdf](http://www.ofr.gov/(S(5jsvwwmsi4nfjrynav20ebeq))/OFRUpload/OFRData/2014-10687_PI.pdf)

**RIN 0938-AR49**

### **Medicare and Medicaid Programs; Regulatory Provisions to Promote Program Efficiency, Transparency, and Burden Reduction; Part II**

**AGENCY:** Centers for Medicare & Medicaid Services (CMS), HHS.

**ACTION:** Final rule.

**SUMMARY:** This final rule reforms Medicare regulations that CMS has identified as unnecessary, obsolete, or excessively burdensome on health care providers and suppliers, as well as certain regulations under the Clinical Laboratory Improvement Amendments of 1988 (CLIA). This final rule also increases the ability of health care professionals to devote resources to improving patient care, by eliminating or reducing requirements that impede quality patient care or that divert resources away from providing high quality patient care. We are issuing this rule to achieve regulatory reforms under Executive Order 13563 on improving regulation and

# CMS Memo on Standing Orders Oct 28, 2008

- Standing orders must be documented as an order in the patient's chart
- Standing orders must later be signed off by the physician, or other qualified practitioner, along with being dated and timed
- Went over standards for pre-printed orders discussed under tag 450
- All qualified practitioners responsible for the care of the patient and authorized by the hospital in accordance with State law and scope of practice are permitted to issue patient care orders

# CMS Memo on Standing Orders Oct 28, 2008

- Standing orders should be evidenced based
- Many hospitals used protocols to standardize and optimize patient care in accordance with clinical guidelines or standards of practice
- Formal protocols may also be used with code team or rapid response teams
- Pre-printed orders are a tool designed to assist qualified practitioners as they write orders
- Preprinted orders are allowed but must be approved by the medical staff

# Pre-printed Orders Tag 450

- Note in final IG, adds tag 457
- If a physician or LIP is using pre-printed order set, then must comply with the below sections
- A preprinted order set is a tool generally designed to assist qualified practitioners as they write orders
  - For example, an orthopedic surgeon goes to the cabinet and gets out his three page order sheets for total knee surgery

# Pre-printed Orders Tag 450

- CMS states the physician must identify the total number of pages in the order set
  - Doctor documents 3 of 3 pages
  - Remember must sign, date and time the order
- If electronic medical record still need to date and time the order and affix electronic signature
- The physician or practitioner must sign, date, and time the last page of the orders also
- This includes initiating or signing either the top or the bottom of the pertinent pages

# Pre-printed Orders Tag 450

- This was done to prevent alterations in the medical record
- If any additions, deletions, or strike outs are done in the order sheet then the physician or LIP needs to initiate to show that they made the change and not someone else
- Order sets may include computerized menu that are a functional equivalent of the preprinted order set
- In the case of electronic orders, the physician or LIP selects the orders and then affixes an electronic signature which includes a date and time

# Standing Orders and Protocols

- CMS issued more than two dozen changes that went into effect June 7, 2013 and added tag number 457 devoted to only standing orders
- It was clarified that CMS is allowing for the administration of medications and biologicals on the orders contained within preprinted and electronic standing orders, order sets, and protocols for patient orders that meet their standards

# Order Sets, Protocols, Standing Orders

- CMS notes there are many situations, besides rapid response teams, where standing orders would be helpful
- This includes the emergency department for things such as asthma, heart attacks, and stroke
- Again the ED staff would need to enter the order in the chart and sign off the orders as discussed

# Tag 457 Added by CMS June, 2013

Old Tag	New Tag
<p><b>New content for this Tag number. Previous citations under old Tag A 0457 will be attributed to Tag A-0454</b></p>	<p><b>A-0457</b></p> <p><i>§482.24(c)(3) Hospitals may use pre-printed and electronic <b>standing</b> orders, order sets, and protocols for patient orders only if the hospital:</i></p> <ul style="list-style-type: none"> <li><i>(i) Establishes that such orders and protocols have been reviewed and approved by the medical staff and the hospital's nursing and pharmacy leadership;</i></li> <li><i>(ii) Demonstrates that such orders and protocols are consistent with nationally recognized and evidence-based guidelines;</i></li> <li><i>(iii) Ensures that the periodic and regular review of such orders and protocols is conducted by the medical staff and the hospital's nursing and pharmacy leadership to determine the continuing usefulness and safety of the orders and protocols; and</i></li> <li><i>(iv) Ensures that such orders and protocols are dated, timed, and authenticated promptly in the patient's medical record by the ordering practitioner or by another practitioner responsible for the care of the patient only if such a practitioner is acting in accordance with State law, including scope-of-practice laws, hospital policies, and medical staff bylaws, rules, and regulations.</i></li> </ul>
<p><b>A-0458</b></p>	<p><b>A-0458</b> §482.24(c)(4) - All records must document the following, as appropriate:</p>

# Tag 457 Standing Orders

- **Standard:** Hospitals can use preprinted and electronic standing orders, order sets, and protocols for patient orders only if the hospital has the following 4 things:
- Make sure the orders and protocols have been reviewed and approved by the MS (such as the MEC) and the hospital's nursing and pharmacy leadership
- Demonstrate that the orders and protocols are consistent with nationally recognized and evidenced based guidelines

## **A-0457**

*(Rev. )*

**§482.24(c) (3) Hospitals may use pre-printed and electronic standing orders, order sets, and protocols for patient orders only if the hospital:**

*(i) Establishes that such orders and protocols have been reviewed and approved by the medical staff and the hospital's nursing and pharmacy leadership;*

*(ii) Demonstrates that such orders and protocols are consistent with nationally recognized and evidence-based guidelines;*

*(iii) Ensures that the periodic and regular review of such orders and protocols is conducted by the medical staff and the hospital's nursing and pharmacy leadership to determine the continuing usefulness and safety of the orders and protocols; and*

*(iv) Ensures that such orders and protocols are dated, timed, and authenticated promptly in the patient's medical record by the ordering practitioner or another practitioner responsible for the care of the patient only if such a practitioner is acting in accordance with State law, including scope-of-practice laws, hospital policies, and medical staff bylaws, rules, and regulations.*

### **Interpretive Guidelines §482.24(c)(3)**

#### ***What is covered by this regulation?***

*There is no standard definition of a "standing order" in the hospital community at large (77 FR 29055, May 16, 2012), but the terms "pre-printed standing orders," "electronic standing orders," "order sets," and "protocols for patient orders" are various ways in which the term "standing orders" has been applied. For purposes of brevity, in our guidance we generally use the term "standing order(s)" to refer interchangeably to pre-printed and electronic standing orders, order sets, and protocols. However, we note that the lack of a standard definition for these terms and their interchangeable and indistinct use by hospitals and health care*

# Tag 457 Standing Orders

- Ensure that there is periodic review the standing orders conducted by MS, nursing and pharmacy leadership to determine the usefulness and safety
- Ensure that the standing orders are dated, timed, and authenticated by the ordering physician or other practitioner responsible for the care of the patient
  1. As long as practitioner is acting in accordance with state law
  2. Scope of practice
  3. Hospital P&P and
  4. MS bylaws and R/R

# Tag 457 Standing Orders

- No standard definition of standing orders
- For brevity CMS uses standing orders to include pre-printed orders, electronic standing orders, order sets and protocols
  - Said these are forms of standing orders
- States lack of standard definition may result in confusion
- Not all preprinted and electronic order sets are considered a standing order covered by this regulation

# Tag 457 Standing Orders

- Example; Doctor or qualified practitioner picks from an order set menu and treatment choices can not be initiated by nurses or other non-practitioner staff then menus are not standing orders covered by this regulation
- Menu options does not create an order set subject to these regulations
- The physician has the choice not to use this menu and could create orders from scratch or modify it

# Tag 457 Standing Orders

- In cases, where a nurse can initiate without a prior specific order,
  - Then policy and practice must meet these regulations
  - Doesn't matter what it is called
  - Must meet certain pre-defined clinical situations
  - Emergency response or part of an evidenced-based treatment where it is NOT practical for a nurse to obtain a written order or verbal order
- Hybrids still require compliance with this section
  - Order set has a protocol for nurse initiated such as KCL

# Standing Order Requirements 457

- Must be well-defined clinical situations with evidence to support standardized treatments
- Appropriate use can contribute to patient safety and quality care
- Can be initiated as emergency response
- Can be initiated as part of an evidenced based treatment regime where not practicable to get a written or verbal order
- Must be medically appropriate such as RRT
- Make sure new staff educated on existing protocols

# Standing Order Requirements 457

- Triage and initialing screening to stabilize ED patients presenting with symptoms of MI, stroke, asthma
- Post-operative recovery areas like PACU
- Timely provisions of immunizations
- Can't be used when prohibited by state or federal law so no standing orders on R&S
- CMS has set forth a number of minimum requirements for standing orders that must be present for a well-defined clinical scenario

# Minimum Requirements for Standing Orders

- Must be approved by MS, nursing and pharmacy leadership
- P&P address how it is developed, approved, monitored, initiated by staff and signed off or authenticated
  - Make sure new staff or LIPs **trained** on protocols
- Must have specific criteria identified in the protocol for the order for a nurse or other staff to initiate
  - Such as a specific clinical situation, patient condition or diagnosis
  - Must include process to have them **signed off**

# Minimum Requirements for Standing Orders

- Hospital must document standing order is consistent with nationally recognized and evidenced based guidelines
- Burden is on the hospital to show there is sound basis for the standing order so consider citing resource
- Must have regular review to ensure its still useful and a safe order
- P&P address how to correct it, revise or modify
- Must be placed in the order section of the chart
- Must be dated, timed, and signed

# Tag 457 Standing Orders

- Make sure there is periodic and regular review of the orders and protocols conducted by the MS, nursing and pharmacy leadership to determine the continued usefulness and safety
- Make sure they are dated, timed, and authenticated promptly in the medical record
  - Signed off by the ordering practitioner or another practitioner on the case
  - Could be signed off by non-physician (PA, NP) if allowed by hospital policy, state law, the person's state law scope of practice, and MS bylaws or R/R

# Radiology Protocols

- CMS issues a survey memo May 15, 2015 rewriting the radiology and nuclear medicine standards
- These were finalized in a transmittal issued on 7-10-2015
- 41 pages memo and make sure radiology department directors and radiologists have a copy of this
- These contained several protocol requirements for the radiology department

# Radiology Protocols

- There are also many required policies
- Must have written protocols developed or approved by the radiology director in conjunction with radiology staff to make sure diagnostic and therapeutic procedures are performed safely
  - Such as radiology techs, patient safety officer, physicist, etc.
- Must ensure that protocols for the various types of ionizing radiation diagnostic or therapeutic imaging modalities are designed to minimize the amount of radiation while maximizing the yield and producing diagnostically acceptable image quality

# ACR Radiation Safety Resources

## QUALITY & SAFETY

Accreditation

Centers of Excellence

Lung Cancer Screening Center

Appropriateness Criteria®

Practice Parameters

Quality Measurement

NRDR Data Registries

### Radiology Safety

Radiation Safety

MR Safety

Patient Resources

Other Safety Topics

RADPEER™

Additional Resources

eNews

Contact Q&S

## Radiation Safety

This list offers access to a variety of resources designed to assist radiologists, medical physicists and technologists in providing effective imaging and therapy while minimizing the potential risk during exposure to ionizing radiation.

### Multi-Society Initiatives

- Image Gently® - The Alliance for Radiation Safety in Pediatric Imaging
- Image Wisely® - Radiation Safety in Adult Medical Imaging
- Choosing Wisely® - An Initiative of the ABIM Foundation
- RadiologyInfo.org - The radiology information resource for patients

### ACR Reports and Statements

- ACR Statement on FDA Radiation Reduction Program (February 2011)
- ACR White Paper on Radiation Dose in Medicine: Three Years Later (November 2010)
- ACR Statement on Airport Full-body Scanners and Radiation (January 2010)
- ACR Statement on Recent Studies Regarding CT Scans and Increased Cancer Risk (December 2009)
- ACR and American Society of Neuroradiology Statement on CT Protocols and Radiation Dose (October 2009)
- ACR White Paper on Radiation Dose in Medicine (March 2007)

### ACR Practice Parameters, Technical Standards and Appropriateness Criteria®

- ACR Practice Parameters and Technical Standards

### IMAGE GENTLY



Increasing awareness of the opportunities to promote radiation protection in the imaging of children.

[Visit Image Gently](#) ▶

### IMAGE WISELY®



Pledge and get resources on radiation safety in adult medical imaging.

[Visit Image Wisely](#) ▶

### FACTS ABOUT MEDICAL IMAGING



Download this medical imaging fact card for your patients in two versions.

» [Tent Card](#)

[www.acr.org/Quality-Safety/Radiology-Safety/Radiation-Safety](http://www.acr.org/Quality-Safety/Radiology-Safety/Radiation-Safety)

# FDA Reduce Unnecessary Radiation Exposure

U.S. Department of Health and Human Services

**FDA** U.S. Food and Drug Administration  
Protecting and Promoting *Your* Health

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**Radiation-Emitting Products** [www.fda.gov/Radiation-EmittingProducts/RadiationSafety/RadiationDoseReduction/ucm2007191.htm](http://www.fda.gov/Radiation-EmittingProducts/RadiationSafety/RadiationDoseReduction/ucm2007191.htm)

Home > Radiation-Emitting Products > Radiation Safety > Initiative to Reduce Unnecessary Radiation Exposure from Medical Imaging

## Initiative to Reduce Unnecessary Radiation Exposure from Medical Imaging

Facility Guidelines and Personnel Qualifications

Education and Communication

Appropriate Use

Equipment Safety Features

Tracking Radiation Safety Metrics

Research and Development

### Initiative to Reduce Unnecessary Radiation Exposure from Medical Imaging

Like all medical procedures, computed tomography (CT), fluoroscopy, and nuclear medicine imaging exams present both benefits and risks. These types of imaging procedures have led to improvements in the diagnosis and treatment of numerous medical conditions. At the same time, these types of exams expose patients to ionizing radiation, which may elevate a person's lifetime risk of developing cancer. As part of a balanced public health approach, the U.S. Food and Drug Administration (FDA) seeks to support the benefits of these medical imaging exams while minimizing the risks.

In 2010, FDA's Center for Devices and Radiological Health (CDRH) launched an [Initiative to Reduce Unnecessary Radiation Exposure from Medical Imaging](#) and held a public meeting on [Device Improvements to Reduce Unnecessary Radiation Exposure from Medical Imaging](#) (March 30-31, 2010). These efforts were in response to increasing exposure to ionizing radiation from medical imaging highlighted in the [National Council on Radiation Protection and Measurements Report No. 160](#) and safety concerns highlighted in [FDA's Safety Investigation of CT Brain Perfusion Scans](#).

Through this initiative, the FDA strives to promote patient safety through two principles of radiation protection developed by the [International Commission on Radiological Protection](#) :

- *Justification*: The imaging procedure should be judged to do more good than harm to the individual patient.

<http://www.fda.gov/MedicalDevices/NewsEvents/Workshops...> ionizing radiation should be performed only when necessary to answer a

# Radiology Protocols

- Existing protocols must be reviewed periodically and updated
- Must follow accepted protocols to ensure the correct quality, quantity, and placement of radiation
- Policies and protocols to identify patients at high risk for adverse events for whom the radiologic study or procedure might be contraindicated
  - Pregnant women, individuals with known allergies to contrast agents, individuals with implanted devices, etc.

# Free Resource AHRQ 2016 185 Pages



**Effective Health Care Program**

Comparative Effectiveness Review  
Number 155

## **Contrast-Induced Nephropathy: Comparative Effects of Different Contrast Media**

[www.effectivehealthcare.ahrq.gov/ehc/products/530/1987/nephropathy-contrast-induced-comparison-report-150107.pdf](http://www.effectivehealthcare.ahrq.gov/ehc/products/530/1987/nephropathy-contrast-induced-comparison-report-150107.pdf)



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# Radiology Protocols

- The surveyor is to verify that there are written hospital policies and procedures and protocols for specific radiologic services modalities
- They must be based on identified professionally approved standards
- Must address the ALARA principle as well as the other safety and risk-reduction measures discussed in the guidance
  - As Low as Reasonably Achievable which is defined by the EPA to minimize exposure to ionizing radiation as low as reasonably achievable

# ALARA Federal Guidance

U.S. ENVIRONMENTAL PROTECTION AGENCY

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Risk Assessment and Federal Guidance Programs: [Risk Assessment](#) [Federal Guidance](#)

## Radiation Protection Guidance for Diagnostic and Interventional X-Ray Procedures: Federal Guidance Report No. 14

Federal Guidance Report No. 14 provides federal facilities that use diagnostic and interventional x-ray equipment with recommendations for keeping patient doses as low as reasonably achievable without compromising the quality of patient care.

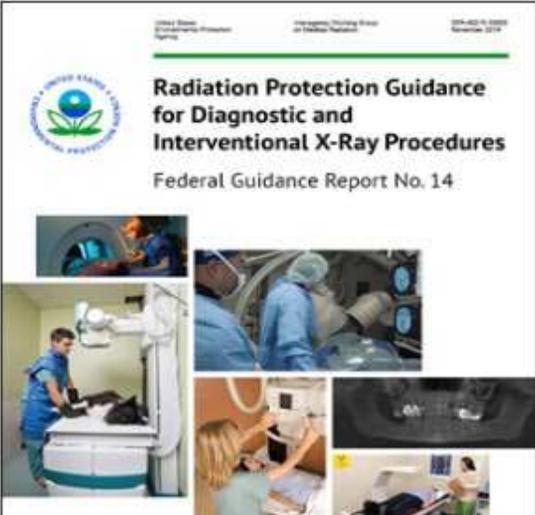
**On this page:**

- [What is Federal Guidance Report No. 14](#)
- [How can I obtain a copy of Federal Guidance Report No. 14?](#)
- [Frequently Asked Questions](#)
  - [Federal Guidance Report No. 14 Questions](#)
  - [Medical Imaging Exposure Questions](#)

### What is Federal Guidance Report No. 14?

Federal Guidance Report No. 14 provides federal facilities that use diagnostic and interventional x-ray equipment with recommendations for keeping patient doses as low as reasonably achievable without compromising the quality of patient care. It is an update of Federal Guidance Report No. 9, which was issued in 1976.

The Interagency Working Group on Medical Radiation updated this guidance to address the significant increase in the use of digital imaging technology in high dose procedures such as computed tomography (CT



The image shows the cover of the Federal Guidance Report No. 14 document. The cover features the EPA logo at the top left, the title 'Radiation Protection Guidance for Diagnostic and Interventional X-Ray Procedures' in a bold, black font, and 'Federal Guidance Report No. 14' below it. The cover also includes a collage of six small photographs showing medical professionals in various settings, including a CT scanner, an X-ray room, and a patient being examined.

<http://www.epa.gov/radiation/federal/fgr-14.html#copy>

# Subq Insulin Order Set

The screenshot displays the SHM website interface. At the top, the SHM logo is accompanied by the tagline "Hospitalists. Transforming Healthcare. Revolutionizing Patient Care." Below this is a navigation bar with links for Home, Log-in, Community, Career Center, and QI Resource Rooms. A search bar is located on the right side of the navigation bar. On the left, a vertical menu lists various categories: About SHM, Membership, Education, Quality Initiatives (with sub-links for Current QI Initiatives, QI Resource Rooms, QI Basics, QI Clinical Tools, SQUINT, Clinical Blog: Hospital Medicine, and Quick Hits), Practice Management, Advocacy, Events, Publications, News, Media & Blogs, Join SHM, and Partner with SHM.

The main content area shows a breadcrumb trail: Home → Quality Improvement → QI Clinical Tools. Below this is an advertisement for Xarelto (rivaroxaban tablets), titled "The New DVT and PE Treatment". The ad includes a pink button that says "EXPLORE THE BENEFITS" and a warning box: "WARNING: (A) DISCONTINUING XARELTO® IN PATIENTS WITH NONVALVULAR ATRIAL".

The main article is titled "Subcutaneous Insulin Order Set" and includes a link to "Guidelines for Insulin Use and Care of the Hospitalized Patient with Hyperglycemia". The article text states: "Purpose of the Tool: Encourage proper use of inpatient insulin by encouraging the use of long acting scheduled (basal) insulin, pre-meal scheduled insulin with adjustment doses, and reduced adjustment doses for HS. Use of traditional sliding scale insulin as sole insulin regimen is strongly discouraged. Improve glycemic control AND reduce hypoglycemic events." The article also lists the submitter as Greg Maynard MD, MS, the tool author as the same person, and provides an email contact: gmaynard@ucsd.edu.

At the bottom right of the article, there is a red URL: [www.hospitalmedicine.org/AM/Template.cfm?Section=QI\\_Clinical\\_Tools&Template=/CM/HTMLDisplay.cfm&ContentID=4239](http://www.hospitalmedicine.org/AM/Template.cfm?Section=QI_Clinical_Tools&Template=/CM/HTMLDisplay.cfm&ContentID=4239)

# Insulin Drip Protocol



## THE NEW\* YALE INSULIN DRIP PROTOCOL



The following insulin drip protocol is intended for use in hyperglycemic adult patients in an ICU setting, but is not specifically tailored for those individuals with diabetic emergencies, such as diabetic ketoacidosis (DKA) or hyperglycemic hyperosmolar syndrome (HHS). When these diagnoses are being considered, or if  $BG \geq 500$  mg/dL, an MD should be consulted for specific orders. Also, please notify an MD if the response to the insulin drip is unusual/unexpected, or if any situation arises that is not adequately addressed by these guidelines. The starting dose, adjustments, and glucose targets have been intensified.

### Initiating An Insulin Drip

- 1.) **INSULIN INFUSION:** Mix 1 units Regular Human Insulin per 1 cc 0.9 % NaCl. Administer via infusion pump (in increments of 0.5 U/hr).
- 2.) **PRIMING:** Flush 50 cc of Insulin/NS drip through all IV tubing, before infusion begins (to saturate the insulin binding sites in the tubing)
- 3.) **THRESHOLD:** IV insulin is indicated in any critically ill patient with persistent  $BG \geq 140$  mg/dL; consider use if  $BG \geq 110$  mg/dL.
- 4.) **TARGET BLOOD GLUCOSE (BG) LEVELS:** **90-119 mg/dL\***.
- 5.) **BOLUS & INITIAL INSULIN DRIP RATE:** If initial  $BG \geq 150$ , divide initial BG level (mg/dL) by 70, then round to nearest 0.5 units for bolus AND initial drip rate. If initial  $BG < 150$  mg/dL, divide by 70 for initial drip rate only (i.e., NO bolus)  
Examples: 1) Initial BG 335 mg/dL:  $335 : 70 = 4.78$ , rounded  $\uparrow$  to 5: 5 units IV bolus + start drip @ 5 units/hr.  
2) Initial BG 148 mg/dL:  $148 : 70 = 2.11$ , rounded  $\downarrow$  to 2: start drip @ 2 units/hr (NO bolus)

### Fingerstick (FS) Blood Glucose Monitoring

- 1.) Check FS hourly until stable (defined as 3 consecutive values in target range). In hypotensive patients, capillary blood glucose (i.e., fingersticks) may be inaccurate and obtaining a blood sample from an indwelling vascular catheter may be preferable.
- 2.) Once stable, check FS q 2 hours; once stable x 12-24 hours, FS checks can be spaced to q 4 hours **IF:**
  - a) no significant change in clinical condition
  - AND
  - b) no significant change in nutritional intake
- 3.) If any of the following occur, consider the temporary resumption of hourly FS monitoring, until BG is again stable:
  - a) any change in insulin drip rate (i.e. BG out of target range)
  - b) significant changes in clinical condition
  - c) initiation or cessation of pressor or steroid therapy
  - d) initiation or cessation of dialysis or CVVH
  - e) initiation, cessation, or rate change of nutritional support (TPN, PPN, tube feedings, etc.)

### Changing the Insulin Drip Rate

If  $BG < 50$  mg/dL:  
D/C INSULIN DRIP

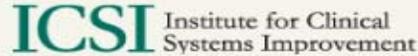
Give 1 Amp (25 g) D50 IV; recheck BG q 15 minutes

⇒ When  $BG \geq 90$  mg/dL, wait 1 hour, recheck BG, then restart drip at 50% of most recent rate (if BG still  $\geq 90$  mg/dL)

If  $BG$  50-69 mg/dL:  
D/C INSULIN DRIP

If asymptomatic (or difficult to access), give 1 Amp (25 g) D50 IV; recheck BG q 15 minutes

# ICSI Protocols



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## Guidelines & More

### GUIDELINES & MORE

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Guidelines A to Z

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Work Group Opportunities

Work Group Members

Response Report Forms

Gantt Chart

ICSI champions the use of evidence-based medicine. A cornerstone of its work is enlisting clinicians from its membership to perform rigorous reviews of current scientific literature and develop evidence-based guidelines and protocols on numerous health conditions that enable clinicians in 180 countries to practice best medicine.

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# Opioid Prescribing Protocol



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## Opioid Prescribing Protocol; Acute Pain Assessment and

The Acute Pain Assessment and Opioid Prescribing Protocol was developed in response to community and national concern over the misuse, abuse and diversion of opioids. It focuses on the acute pain phase and, potentially, the first prescription of opioids. It encourages the exploration of all options for pain management, followed by careful opioid risk assessment and shared decision-making with the patient, prior to prescribing. The document is structured similarly to a guideline but because of limited evidence, meets only protocol standards. It includes risk assessment tools and guidance for talking with patients about opioids.

### PROTOCOL SUMMARY

**Revision Date: January 2014**  
**First Edition**

#### Scope and Target Population

This protocol will include recommendations for acute pain assessment, risk assessments, therapies and treatment

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# Alcohol Withdrawal Treatment Protocol

## **Evidence-Based Revision of an Alcohol Withdrawal Order Set Treatment Protocol**

**Background:** Every year several hundred thousand hospitalized patients are treated with alcohol withdrawal, either as a primary or secondary diagnosis. In 2003, due to high numbers of our patient population experiencing alcohol withdrawal, the Medical ICU at the XXXX Hospital, implemented a symptom triggered alcohol withdrawal order set protocol which incorporated the standardized CIWA scale (Clinical Institute Withdrawal Assessment), and treated primarily with oral clorazepate or oral or intravenous (IV) lorazepam. The order set was expanded in 2005 to include all inpatient areas, dividing the orders into treatment of intensive Emergency/ICU patients and less intensive Medical/Surgical patients. In May 2008, because of concerns among several of the MICU physicians and nurses, the MICU Outcomes Committee reviewed the most current alcohol withdrawal literature for evidence-based best practice protocols and subsequently modified the alcohol withdrawal order set. Physician concerns included: 1) Patients receiving large benzodiazepines doses on the current protocol causing over sedation which required intubation to protect the patient's airway; 2) Patients receiving a continuous infusion of lorazepam which delayed extubation by several days. Nursing concerns included increasing benzodiazepine usage due to the lack of adjunct medications to manage associated alcohol withdrawal symptoms such as agitation, delirium, and adrenergic stimulation with hypertension and tachycardia.

**Purpose:** The purpose of this evidence-based project was to revise the XXXX alcohol withdrawal treatment practice order set based on the evidence and to include adjunct medications to improve patient safety and outcomes.

**Methods:** The Multidisciplinary MICU Outcomes Committee revised the alcohol withdrawal order set to include additional evidence-based adjunct medications to reduce

# Guidelines [www.guidelines.gov](http://www.guidelines.gov)

The screenshot shows the National Guideline Clearinghouse website. At the top, there is a search bar with the text "definition protocol" and a "Search" button. To the right of the search bar are links for "Help", "RSS", "Subscribe to weekly e-mail", "Site map", "Contact us", and "For web developers". Below the search bar, there are links for "Search Tips", "Advanced Search", and "About Search".

The left sidebar contains a navigation menu with the following items: Home, Guidelines, Expert Commentaries, **Guideline Syntheses** (highlighted), Guideline Resources, Annotated Bibliographies, Compare Guidelines, FAQ, Submit Guidelines, About, and My NGC.

The main content area displays the search results for "definition protocol". The first result is "Guideline Syntheses >" with a "Print" icon. Below this is the title "Chronic Obstructive Pulmonary Disease (COPD): Diagnosis and Management of Acute Exacerbations". Underneath the title is the section "Guidelines Being Compared:" followed by a list of two guidelines:

- Global Initiative for Chronic Obstructive Lung Disease (GOLD).** Global strategy for the diagnosis, management, and prevention of chronic obstructive pulmonary disease. Vancouver (WA): Global Initiative for Chronic Obstructive Lung Disease (GOLD); 2011. 78 p. [503 references]
- University of Michigan Health System (UMHS).** Chronic obstructive pulmonary disease. Ann Arbor (MI): University of Michigan Health System; 2010 May. 17 p. [7 references]

Below the list of guidelines is a table with eight columns, each representing a different aspect of the guidelines being compared:

Areas of Agreement and Difference	Comparison of Recommendations	Strength of Evidence and Recommendation Grading Schemes	Methodology	Source(s) of Funding	Benefits and Harms	Contra-indications	Abbreviations	Status
-----------------------------------	-------------------------------	---	-------------	----------------------	--------------------	--------------------	---------------	--------

Below the table, there is a paragraph of text: "A direct comparison of recommendations presented in the above guidelines for the diagnosis and management of acute exacerbation of COPD is provided below. The UMHS guideline provides recommendations for the outpatient setting; GOLD addresses both hospital and home settings."

Below the paragraph is the section "Areas of Agreement" followed by the sub-section "Diagnosis and Initial Assessment".

# Choosing Wisely [www.choosingwisely.org/](http://www.choosingwisely.org/)



An initiative of the ABIM Foundation

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\*\* The American Society of Hematology has released **five additional recommendations**.

\*\* The American Academy of Sleep Medicine has released its *Choosing Wisely* list.

An initiative of the ABIM Foundation, *Choosing Wisely* is working to spark conversations between providers and patients to ensure the right care is delivered at the right time. Participating organizations have created lists of "Things to Question and

**UPDATES FROM THE FIELD** ▶

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### Specialty Society Lists of Five Things Physicians and Patients Should Question (for physicians):

- AMDA – The Society for Post-Acute and Long-Term Care Medicine
- American Academy of Allergy, Asthma & Immunology
- American Academy of Dermatology
- American Academy of Family Physicians
- American Academy of Hospice and Palliative Medicine
- American Academy of Neurology
- American Academy of Nursing
- American Academy of Ophthalmology
- American Academy of Orthopaedic Surgeons
- American Academy of Otolaryngology – Head and Neck Surgery Foundation
- American Academy of Pediatrics
- American Academy of Physical Medicine and Rehabilitation
- American Academy of Sleep Medicine
- American Association for Pediatric Ophthalmology and Strabismus
- American Association for the Study of Liver Diseases
- American Association of Blood Banks
- American Association of Neurological Surgeons and Congress of Neurological Surgeons
- American College of Cardiology
- American College of Chest Physicians and American Thoracic Society
- American College of Emergency Physicians
- American College of Medical Toxicology and American Academy of Clinical Toxicology
- American College of Obstetricians and Gynecologists

### Patient-Friendly Resources from Specialty Societies and Consumer Reports:

- Allergy tests: When you need them and when you don't
- Antibiotics for ear infections in children: when you need them...
- Antibiotics for pink eye...
- Antibiotics for urinary tract infections in older people
- Antibiotics for your skin: When you need them...
- Antibiotics: When you need them...
- Antibiotics: When children need them for respiratory illness
- Bone-density tests: When you need them...
- Breast Biopsy - Know your options
- Breast cancer treatment - A better way to check the lymph nodes.
- Cancer care at the end of life: When to stop cancer treatment
- [Carotid artery surgery: When you need it...](#)
- Chest X-rays before surgery: When you need them...
- Cholesterol drugs for people 75 and older: When you need them...
- Choosing pain relievers with kidney disease/heart problems
- Chronic kidney disease: Making hard choices
- Colonoscopy: When you need it...
- CT scans for children with head injuries: When they need them...
- CT scans to find lung cancer in smokers: When you need them...
- Dental fillings that contain mercury: Removing them is a bad idea
- Drugs to boost white blood cells for chemotherapy patients: When you need them...



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#### AAPM Updates Lung Cancer Screening CT Protocols (7/17/15)

The AAPM, through its Working Group on Standardization of CT Nomenclature and Protocols, has updated its lung cancer screening CT protocols to include manufacturer and model-specific protocols for all of the applicable manufacturers of CT equipment currently sold in the US.

[Read article](#)



# CT Protocols Available



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## Manufacturer and Model-Specific CT Protocols Available

The AAPM, through its Working Group on Standardization of CT Nomenclature and Protocols, has published a set of scan protocols for frequently performed CT examinations which summarizes the basic requirements of the exams and offer several model-specific examples of scan and reconstruction parameters.

The working group is composed of academic and consulting medical physicists who specialize in CT imaging along with representatives from CT equipment manufacturers and the American College of Radiology, American Society of Radiologic Technologists, and the U.S. Food and Drug Administration. The members of the working group consider these protocols reasonable and task-appropriate, and the settings representative of typical clinical values, even though they may not always match default protocols.

The protocols represent a sampling of currently available scanner models and are not intended to provide comprehensive information for all available scanner models. Visit <http://www.aapm.org/pubs/CTProtocols/> for more information.

[www.imagewisely.org/imaging-Modalities/Computed-Tomography/Imaging-Physicians/Articles/AAPM-Protocols?referrer=search](http://www.imagewisely.org/imaging-Modalities/Computed-Tomography/Imaging-Physicians/Articles/AAPM-Protocols?referrer=search)

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# Joint Commission Standards on Protocols, Standing Orders and Order Sets

## What Hospitals Need to Know



## Joint Commission Standards MM.04.01.01

- No definition of standing order, protocol, or order set in the glossary
- However, MM.04.01.01 EP1 defines standing order
- Standing orders:
  - A pre-written medication order and specific instructions from the licensed independent practitioner (LIP) to administer a medication to a person in clearly defined circumstances

# TJC MM.04.01.01 Standing Orders

- Added MM.04.01.01, EP 15, effective September 1, 2012 regarding pre-printed and standing orders
- To bring TJC standards into compliance with CMS changes that went into effect June 7, 2013
- Standard: Medication orders are clear and accurate
- For hospitals that use TJC for deemed status (DS)
- Processes for the use of pre-printed and electronic standing orders, order sets, and protocols for medications orders must include the following:

## TJC Standing Orders, Order Sets MM.04.01.01

- The Medical Staff (MS), Nursing and Pharmacy need to review and approve all standing orders and protocols
- The hospital must evaluate standing orders and protocols to ensure they are consistent with nationally recognized and evidence based guidelines
- There must be a regular review of standing orders and protocols by MS, Nursing, and Pharmacy to determine their continued usefulness and safety

# TJC Standing Orders, Order Sets MM.04.01.01

- Standing orders and protocols
  - Must be dated and **timed**
  - Must be signed off or authenticated by the ordering practitioner or a practitioner responsible for the patient's care
  - Must be in accordance with professional standards of practice, and law and regulation
  - Must be consistent with hospital policies and procedures and MS bylaws and rules & regulations

## MM.02.01.01 Hospital Selects Medications

- **Standard:** The hospital selects and obtains medications
- Recently, hospitals have experienced many problems related to drug shortages and outages
- EP 12 States that's the hospitals develops and approves written medication **substitution protocols** to be use in the event of a medication shortage or outage
- EP 13 States hospital must implement its approved **medication substitution protocols**

## MM.02.01.01 Medication Substitution Protocol

- EP14 Hospital needs to have a process to communicate to the physicians and LIPs and staff about the **medication substitute protocol** for shortages and outages
- EP 15 Hospital implements its process to communicate to all of the above who participate in medication management about the **medication substitution protocols** for shortages and outages
- Hospitals can sign up to get email updates on drug shortages and outages from the FDA
- ASHP also has good resources on the same



## Drugs

www.fda.gov/Drugs/DrugSafety/DrugShortages/default.htm

Home | Drugs | Drug Safety and Availability | Drug Shortages



### Drug Safety and Availability

#### Drug Shortages

Current Drug Shortages Index

Current Drug Shortages A - D

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Current Drug Shortages L - N

Current Drug Shortages O - R

Current Drug Shortages S - Z

Resolved Drug Shortages

Drugs to be Discontinued

How to Report a Shortage or Supply Issue

Frequently Asked Questions About Drug Shortages

## Drug Shortages

FDA takes great efforts, within its legal authority, to address and prevent drug shortages, which can occur for many reasons, including manufacturing and quality problems, delays, and discontinuations. The agency works closely with manufacturers of drugs in short supply to communicate the issue and to help restore availability. FDA also works with other firms who manufacturer the same drug, asking them to increase production, if possible, in order to prevent or reduce the impact of a shortage.

Manufacturers are not required to report information, such as reasons for shortages or the expected duration of shortages. However, many companies voluntarily provide shortage information that FDA posts on its website. FDA encourages and appreciates all reporting of shortages by manufacturers. Shortage notifications and updates may be reported to FDA at [drugshortages@fda.hhs.gov](mailto:drugshortages@fda.hhs.gov).



## Spotlight

- 2012-2013 Influenza Season: Availability of Antivirals
- Meningitis Outbreak: Voriconazole and Liposomal Amphotericin B Availability Information
- Fact Sheet: Drug Products in Shortage in the United States
- FDA Report: A Review of FDA's Approach to Medical Product Shortages
- Statement from FDA and HHS on Drug Shortages

### Drug Shortages Information

# Email Updates on Drug Shortages



U.S. Food and Drug Administration  
Protecting and Promoting *Your Health*

[https://public.govdelivery.com/accounts/USFDA/subscriber/new?pop=t&topic\\_id=USFDA\\_22](https://public.govdelivery.com/accounts/USFDA/subscriber/new?pop=t&topic_id=USFDA_22)

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# ASHP Drug Shortages Resources



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## Drug Shortages

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## Drug Shortages

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Welcome to the ASHP Drug Shortages Resource Center, the first stop for information and resources on drug product shortages and management. Drug shortages can adversely affect drug therapy, compromise or delay medical procedures, and result in medication errors. ASHP and its partners work to keep the public informed of the most current drug shortages.

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# ASHP Resources on Managing

ASHP REPORT

## ASHP Guidelines on Managing Drug Product Shortages in Hospitals and Health Systems

DEVELOPED BY AN ASHP EXPERT PANEL ON DRUG PRODUCT SHORTAGES: ERIN R. FOX, ANNETTE BIRT, KEN B. JAMES, HEATHER KOKKO, SANDRA SALVERSON, AND DONNA L. SOFLIN

*Ann J Health-Syst Pharm.* 2009; 66:1399-406

### Purpose

Drug product shortages can adversely affect drug therapy, compromise or delay medical procedures, and result in medication errors.<sup>1,2</sup> Health care professionals are increasingly concerned about the clinical effect that shortages have on patients and the tremendous resources required to address shortages.<sup>3-5</sup> Adverse patient outcomes related to drug product shortages<sup>1,2,6-9</sup> have prompted aggressive management strategies by health care providers and gained the attention of the Joint

Commission,<sup>10</sup> the government,<sup>11,12</sup> and the media.<sup>13,14</sup> Drug product shortages adversely affect health-system finances by increasing the cost of delivering patient care, largely through higher drug acquisition and personnel costs.<sup>6</sup> In addition, shortages create a high level of frustration for everyone involved, including purchasing agents, pharmacists, nurses, physicians, and patients.<sup>7</sup>

Managing drug product shortages is particularly complex for practitioners in hospitals and health systems (hereinafter, "health systems"),

because these facilities routinely treat patients with acute or emergent conditions, use a significant number of medically necessary or single-source products, and use high-cost new drug technologies. These health care providers are challenged during drug product shortages to ensure the provision of seamless, safe, and therapeutically equivalent drug therapy, preferably at comparable costs. The pharmacy department must take a leadership role in efforts to develop and implement appropriate strategies and processes for inform-

Developed through the ASHP Council on Pharmacy Management and approved by the ASHP Board of Directors on January 15, 2009. These guidelines supersede the ASHP Guidelines on Managing Drug Product Shortages dated March 28, 2001.

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# NPSG.03.05.01 Anticoagulant Protocols

- **Standard:** Reduce the likelihood of patient harm associated with anticoagulant therapy
- This standard applies to hospitals that provide anticoagulant therapy or long term prophylaxis for things like atrial fibrillation where it is expected lab values will remain outside normal values
- Does not apply to short term use to prevent DVTs
- EP2 Hospitals must use approved **protocols** for the initiation and maintenance of anticoagulant therapy

# University of Washington Anticoagulation

- Search this site >
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- Venous Thromboembolism (Diagnosis, Prevention Treatment) >
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- Rivaroxaban (Xarelto) >
- Guidelines for Reversal of Anticoagulation >
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- Guidelines for Management of Fondaparinux >
- Peri-Procedural Anticoagulation >
- Neuraxial Anesthesia in the Anticoagulated Patient >
- Heparin Protocols for UWMC >
- Heparin-Induced Thrombocytopenia >
- Central Venous Catheter Management >
- Alternative Monitoring for Antithrombotic Agents at UWMC >
- Permissions Request >

## About UW Medicine Department of Pharmacy Anticoagulation Services

*The anticoagulation services program at UW Medicine is operated by the [Department of Pharmacy](#). Services encompass the management of anticoagulant therapy in pharmacist-managed anticoagulation clinics as well as coordination of the use of antithrombotic agents in the inpatient setting. Pharmacist providers are involved in clinical practice, training and education, and research activities consistent with the mission of UW Medicine and the Department of Pharmacy.*

"The goals of pharmacist-managed anticoagulation services include treatment and prevention of thromboembolic disease and minimization of complications of antithrombotic therapy."

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### WHAT'S NEW

[Rivaroxaban \(Xarelto\)](#)

[Dabigatran \(Pradaxa\)](#)

[Warfarin drug interactions](#)

<http://www.uwmcacc.org>

# Heparin Protocol

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Venous Thromboembolism  
(Diagnosis, Prevention  
Treatment) >

Recommendations for  
Chronic Antithrombotic  
Therapy >

Warfarin >

Dabigatran (Pradaxa) >

Rivaroxaban (Xarelto) >

Guidelines for Reversal of  
Anticoagulation >

Guidelines for Dosing and  
Monitoring of Low-Molecular  
Weight Heparin (LMWH) >

Guidelines for Management  
of Fondaparinux >

Peri-Procedural  
Anticoagulation >

Neuraxial Anesthesia in the  
Anticoagulated Patient >

Heparin Protocols for  
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Heparin-Induced  
Thrombocytopenia >

Central Venous Catheter  
Management >

Alternative Monitoring for  
Antithrombotic Agents at  
UWMC >

Permissions Request >

## **Heparin Protocols for UWMC**

[Intravenous Heparin Administration Orders \(pdf\)](#)

[Low-Range IV Heparin Administration Orders \(pdf\)](#)

for use in patients with excessive bleeding risk  
**\*\*\*\*Do NOT USE for patients with acute thromboembolism, including  
DVT or PE\*\*\*\***

### **GUIDELINES FOR MANAGEMENT OF FULL INTENSITY SQ HEPARIN**

#### ***Fixed Dosing***

- Unfractionated heparin (UFH) 250 units/kg SQ q12h with no aPTT monitoring
- Consider 333 units/kg SQ loading dose for treatment of acute thrombosis
- Do not use for treatment of arterial thrombosis (eg. AF, valve replacement, etc.)

#### ***Adjusted Dosing***

- Initial Dosing
  - Initial therapy with adjusted-dose SQ UHF

# Other Sections Mentioning Protocols

- MM.05.01.01 A pharmacist reviews the appropriateness of all medication orders to be dispensed in the hospital
  - EP1 An exception to the rule is if the medication delay would harm the patient
  - The radiology department is expected to define through a protocol or a policy the role of the LIP in the direct supervision of a patient during and after IV contrast
  - Recommend **policy** and not a protocol for contrast (CMS)
- MM.06.01.05 Must have written process for use of investigational medication that specifies if patient involved in investigational protocol

# ACR Contrast Manual

[www.acr.org/~media/ACR/Documents/PDF/QualitySafety/Resources/Contrast%20Manual/2015\\_Contrast\\_Media.pdf](http://www.acr.org/~media/ACR/Documents/PDF/QualitySafety/Resources/Contrast%20Manual/2015_Contrast_Media.pdf)



**ACR Manual on Contrast Media**

**Version 10.1**

**2015**

**ACR Committee on  
Drugs and Contrast Media**

# Other Sections Mentioning Protocols

- NPSG.07.04.01 Related to central line associated bloodstream infections
  - Need **standardized protocol** and checklist
  - Need **standardized protocol** for sterile barrier precautions
  - Use **standardized protocol** to disinfect catheter hubs and injection ports
- PC.01.02.15 Hospitals in California must make sure dose of CT scan is recorded in the medical record or on the protocol page that lists the radiation dose

# CHA Guidelines and Standing Orders

- The California Hospital Association (CHA) has a resource guide that hospitals may find helpful, especially hospitals in California
  - The full name of this document is “CHA Guidelines for Standing Orders, Standardized Procedures and Other Delegation Tools.”
  - It also provides several definitions that may be helpful although some of these definitions are found in California statutes or laws
  - The CHA Order Set Tool is available at [http://www.calhospital.org/sites/main/files/file-attachments/final-cha\\_final\\_phys\\_order\\_chart\\_6-1-12.pdf](http://www.calhospital.org/sites/main/files/file-attachments/final-cha_final_phys_order_chart_6-1-12.pdf)

# Standing Orders & Be Aware of Any State Laws

## CHA GUIDELINES FOR STANDING ORDERS, STANDARDIZED PROCEDURES AND OTHER DELEGATION TOOLS

*This is intended as a tool to provide generalized guidance; please seek advice of counsel when utilizing delegation tools.*

*\*Regulations and laws are constantly changing, the following summary is based on today's regulations.*

	What are they and who do they apply to?	What can or can't they be used for?	Special conditions for Medicare/Medi-Cal:
<b>Standing Orders</b>	<ul style="list-style-type: none"> <li>• Standing orders are written orders used in the absence of a specific order for a specific patient provided by a licensed health care practitioner acting within the scope of his or her professional licensure.<sup>1</sup></li> <li>• Standing orders are conditioned upon the occurrence of certain clinical events, initiated by the treating health care practitioner. All patients who meet the criteria for the order receive the same treatment. Once the triggering event is identified, an allied health professional (A.H.P) or licensed independent practitioner (L.I.P) may initiate treatment pursuant to a standing order.<sup>2</sup></li> <li>• Standing orders can be used by a physician to authorize a nurse practitioner ("NP"),<sup>3</sup> or physician assistant ("PA")<sup>4</sup> to provide specified services.</li> <li>• Use of standing orders for medical assistants are limited and subject to specific rules and settings.<sup>5</sup></li> </ul> <p>For example, a standing order is one of two ways to meet the statutory requirement for medical</p>	<ul style="list-style-type: none"> <li>• <i>Note: While the statutes and regulations described below deal almost exclusively with the use of standing orders in the context of administering drugs to patients, standing orders have a much broader application than just drug administration.</i> Final rules at 42 CFR §482.24 allow hospitals flexibility to use standing orders. Added requirement for medical staff, nursing, and pharmacy to approve written and electronic standing orders, orders sets and protocols. Orders and protocols must be based on nationally recognized and evidence-based guidelines and recommendations.<sup>6</sup></li> <li>• In a hospital, standing orders for drugs may be used for specified patients when authorized by a person licensed to prescribe. A copy of the standing orders for a specific patient must be dated, timed, promptly signed by the prescriber, and included in the patient's medical record. Such standing orders shall:</li> </ul>	<ul style="list-style-type: none"> <li>• Services billed to Medi-Cal that are the result of routine or standing orders for admission to a hospital are not reimbursable when applied indiscriminately to all patients. All patient orders, including standing orders for particular types of cases, must be specific to the patient and must represent necessary medical care for the diagnosis or treatment of a particular condition.<sup>7</sup></li> <li>• While historically CMS has generally frowned on the use of standing orders, CMS recently proposed a rule that would allow hospitals to use standing orders under certain circumstances.<sup>8</sup></li> </ul>

## CHA GUIDELINES FOR STANDING ORDERS, STANDARDIZED PROCEDURES AND OTHER DELEGATION TOOLS

*This is intended as a tool to provide generalized guidance; please seek advice of counsel when utilizing delegation tools.*

*\*Regulations and laws are constantly changing, the following summary is based on today's regulations.*

	What are they and who do they apply to?	What can or can't they be used for?	Special conditions for Medicare/Medi-Cal:
<p><b>Standardized Procedures</b></p>	<p>Standardized procedures can be used by RNs, nurse-midwives, or NPs,<sup>14</sup> and mean <u>either</u> of the following:</p> <p>(1) Policies and protocols developed by a health facility licensed pursuant to Chapter 2 (commencing with § 1250) of Division 2 of the Health and Safety Code through collaboration among administrators and health professionals including <b>physicians</b> and nurses (e.g., an interdisciplinary committee).</p> <p>(2) Policies and protocols developed through collaboration among administrators and health professionals, including <b>physicians</b> and nurses, by an organized health care system which is not a health facility licensed pursuant to Chapter 2 (commencing with Section 1250) of Division 2 of the Health and Safety Code.</p> <p>The policies and protocols shall be subject to any guidelines jointly promulgated by the Medical Board of California and the Board of Registered Nursing.<sup>15</sup></p>	<ul style="list-style-type: none"> <li>• <i>Note: While many of the statutes and regulations described below deal exclusively with the use of standardized procedures in the context of administering drugs to patients, we believe that standardized procedures have a much broader application than just drug administration.</i><sup>16</sup></li> <li>• Standardized procedures may be used to legally allow RNs and NPs to perform some functions that would otherwise be considered the practice of medicine.<sup>17</sup></li> <li>• The administration of dimethyl sulfoxide may be performed pursuant to standardized procedures developed by an organized health care system through collaboration among administrators and health professionals.<sup>18</sup></li> <li>• A certified nurse-midwife or a NP following standardized procedures may dispense substances included in the California Uniform Controlled Substances</li> </ul>	<ul style="list-style-type: none"> <li>• Under both the Medi-Cal and Medicare programs, standing orders <u>cannot</u> be used to authorize the restraint of a patient, including when using drugs that meet the definition of a restraint.<sup>20</sup></li> </ul>

	What are they and who do they apply to?	What can or can't they be used for?	Special conditions for Medicare/Medi-Cal:
<b>Protocols</b>	<p>(7) Specify the scope of supervision required for performance of standardized procedure functions, for example, immediate supervision by a <b>physician</b>.</p> <p>(8) Set forth any specialized circumstances under which the RN is to immediately communicate with a patient's <b>physician</b> concerning the patient's condition.</p> <p>(9) State the limitations on settings, if any, in which standardized procedure functions may be performed.</p> <p>(10) Specify patient record keeping requirements.</p> <p>(11) Provide for a method of periodic review of the Standardized procedures.<sup>27</sup></p> <ul style="list-style-type: none"> <li>• Protocols typically apply to PAs, but may also apply to nurse mid-wives, NPs,<sup>28</sup> or polysomnographic technologists.<sup>29</sup></li> <li>• With regard to PAs, a PA and his or her supervising physician shall establish written guidelines for the adequate supervision of the PA. This requirement may be satisfied by the supervising physician and surgeon adopting protocols for some or all of the tasks performed by the PA. The PA protocols shall comply with the following requirements:</li> </ul>	<ul style="list-style-type: none"> <li>• Note: While many of the statutes and regulations described below deal exclusively with the use of protocols in the context of administering drugs to patients, we believe that protocols have a much broader application than just drug administration.<sup>30</sup></li> <li>• A certified nurse-midwife or a NP following protocol may dispense substances included in the California Uniform Controlled Substances Act (Division 10 (commencing with <a href="#">Section 11000</a>) of the Health and Safety Code).<sup>31</sup></li> <li>• Protocols for Schedule II controlled substances shall address the diagnosis of illness, injury, or condition for which the Schedule II controlled substance is being administered, provided, or issued. The drugs listed in the protocols shall constitute the formulary and shall include only drugs that are appropriate for use in the type of practice engaged in by the supervising physician and surgeon.<sup>32</sup></li> </ul>	<ul style="list-style-type: none"> <li>• Under the Medi-Cal program, a single physician is limited to supervising four PAs (full-time equivalents). The supervising physician and surgeon shall review, countersign and date a sample consisting of, at minimum, five percent of the medical records of patients treated by the PA functioning under the protocols within 30 days of the date of treatment by the PA.<sup>33</sup></li> <li>• CMS suggests that a hospital's anesthesia services policy should include protocols for supportive life functions, e.g., cardiac and respiratory emergencies.<sup>34</sup></li> <li>• CMS suggests that hospitals develop substitution protocols to address medication shortages.<sup>35</sup></li> </ul>

# ICSI Instit for Clinical Systems Improvement

## GUIDELINES AND ORDER SETS

### January 2013

- ▶ [Headache, Diagnosis and Treatment of](#)
- ▶ [Immunizations](#)
- ▶ [Respiratory Illness in Children and Adults, Diagnosis and Treatment of](#)
- ▶ [Venous Thromboembolism Diagnosis and Treatment](#)

### December 2012

- ▶ None

[www.icsi.org/guidelines\\_\\_more/new\\_\\_recently\\_revised\\_guidelines/](http://www.icsi.org/guidelines__more/new__recently_revised_guidelines/)

### November 2012

- ▶ [ACS: Chest Pain and Acute Coronary Syndrome, Diagnosis and Treatment of](#)
- ▶ [Hypertension Diagnosis and Treatment](#)
- ▶ [Low Back Pain, Adult Acute and Subacute](#)
- ▶ [Venous Thromboembolism Prophylaxis](#)

## PROTOCOLS

### January 2013

# NY State Hospital Sepsis Protocol

Hospital Sepsis Protocols

Effective date: 5/1/13

[www.health.ny.gov/regulations/recently\\_adopted/docs/2013-05-01\\_hospital\\_sepsis\\_protocols.pdf](http://www.health.ny.gov/regulations/recently_adopted/docs/2013-05-01_hospital_sepsis_protocols.pdf)

Pursuant to the authority vested in the Public Health and Health Planning Council and the Commissioner of Health by sections 2800 and 2803 of the Public Health Law, Sections 405.2 and 405.4 of Title 10 (Health) of the Official Compilation of Codes, Rules and Regulations of the State of New York are hereby amended, to be effective upon publication of a Notice of Adoption in the New York State Register, to read as follows:

Paragraphs (6) and (7) of subdivision (f) of section 405.2 are amended and a new paragraph (8)

# Protocols for Suicidal Patients in Office

## Protocol for Suicidal Patients - Office Template

Post in a visible or accessible place for key office staff.

*If a patient presents with suicidal ideation or suicidal ideation is suspected and detected with screening questions ...*

- ✓ \_\_\_\_\_ should be called/paged to assist with suicide risk assessment (e.g., physician, mental health professional, telemedicine consult etc.).
- ✓ Identify and call emergency support person in the community (e.g., family member, pastor, mental health provider, other support person).

*If a patient requires hospitalization ...*

- ✓ Our nearest Emergency Department or psychiatric emergency center is \_\_\_\_\_  
\_\_\_\_\_. Phone # \_\_\_\_\_.

# WHO Best Practice Protocols



World Health  
Organization

## **Best Practice Protocols** **Clinical Procedures Safety**

### List of Contents

1. Ethics- Patient Consent
2. Record keeping
3. Operating Room (O.R.)
4. Hand Washing Techniques
5. Scrubbing and gowning
6. Prevention of Transmission of HIV
7. Infection Prevention and Universal Precautions
8. Waste disposal in clinical procedures at resource limited health care facility
9. Diagnosis of Labour
10. Diagnosis of vaginal bleeding in early pregnancy
11. Severe Pre-Eclampsia and Eclampsia
12. Eclampsia Management
13. Urinary Retention: Emergency Drainage
14. Caesarean Section
15. Check List Prior to inducing anaesthesia
16. Managing unexpected effects of a spinal anaesthetic
17. Postoperative management
18. Postoperative pain relief

[www.who.int/surgery/publications/BestPracticeProtocolsCPSafety07.pdf](http://www.who.int/surgery/publications/BestPracticeProtocolsCPSafety07.pdf)

75. Check List Prior to inducing anaesthesia

16. Managing unexpected effects of a spinal anaesthetic
17. Postoperative management
18. Postoperative pain relief
19. Cardiac life support
20. Airway Management
21. Surgical Cricothyroidotomy
22. Cast Application
23. Splint application
24. Caring for a cast or splint
25. Removing a cast
26. Hand lacerations
27. Disaster Planning
28. Trauma Team Leader Responsibilities
29. Abdominal Trauma
30. Burns Management: adults and children
31. War-related Trauma
32. Transportation of critically ill patients

Clinical Procedures Unit  
Department of Essential Health Technologies  
World Health Organization,  
20 Avenue Appia, 1211, Geneva 27, Switzerland  
Fax: 41 22 791 4836  
Internet: [www.who.int/surgerv](http://www.who.int/surgerv)

# Mass State Pediatric Protocols

Mass.gov State Offices & Courts | State A-Z Topics | State Forms ⚠ No Active Alerts [Skip to main content](#) | [AA](#) | [English](#) 📖

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## Protocols and Guidelines

[www.mass.gov/eohhs/gov/departments/dph/programs/community-health/dvip/injury-prevention/ems-children/protocols-and-guidelines.html](http://www.mass.gov/eohhs/gov/departments/dph/programs/community-health/dvip/injury-prevention/ems-children/protocols-and-guidelines.html)

### Pediatric Protocols and Guidelines

Protocols and guidelines for providing emergency care to children are especially important to pre-hospital and hospital clinicians who treat children infrequently yet need to keep their knowledge and skills up to date. Massachusetts EMSC aims to have in place statewide standards of care at every level of the EMS system so that all practitioners will be able to respond appropriately when caring for an injured or very sick child.

Effective March 1 2010, certain MA EMS Statewide Treatment Protocols include pre-hospital treatment for adrenal insufficiency/adrenal crisis. Paramedic ambulances in the state must stock either Solu-Cortef or Solu-Medrol. Massachusetts is only the second state in the nation to fully implement these standards.

- [Adrenal Insufficiency Education/Protocol Update for EMTs \(PPT 2MB\)](#)  1MB 

### Pre-hospital Protocols

Pediatric protocols are embedded within the latest version of the OEMS Statewide Treatment Protocols ([www.mass.gov/eohhs/provider/guidelines-resources/clinical-treatment/public-health-oems-treatment-protocols.html](http://www.mass.gov/eohhs/provider/guidelines-resources/clinical-treatment/public-health-oems-treatment-protocols.html)). Look for the 'Benny the Bear' image for pediatric-specific care guidelines.

**Protocol 5.3** Tracheostomy Tube Obstruction Management describes procedures for both adult and pediatric trach tube management.

Also be sure to check **Appendix A2** for pediatric medications and **Appendix A3** for inter-facility transfer guidelines (Parts B1 and D5 provide guidance on pediatric and pregnancy-related transfers)

### Guidelines for Safe Pediatric Transport in Ground Ambulances

In Massachusetts, **there is no exemption** from the child passenger restraint law for ambulances (C 90 Sec. 7AA):

# Georgia Has Guidelines for Protocols

Department of Public Health  
Nurse Protocols for Registered Professional Nurses  
for 2012

## GUIDELINES FOR NURSE PROTOCOLS FOR REGISTERED PROFESSIONAL NURSES

### A. PURPOSE

[http://dph.georgia.gov/sites/dph.georgia.gov/files/related\\_files/site\\_page/Guidelines%20for%20Nurse%20Protocols.pdf](http://dph.georgia.gov/sites/dph.georgia.gov/files/related_files/site_page/Guidelines%20for%20Nurse%20Protocols.pdf)

The purpose of these guidelines is to provide direction, promote consistency and support practice under nurse protocol by registered professional nurses in public health, in accordance with all applicable statutes, rules and regulations.

### B. DEFINITIONS

#### 1. Nurse Protocol

Nurse Protocol means a written document mutually agreed upon and signed by a nurse and a licensed physician, by which the physician delegates to that nurse the authority to perform certain medical acts pursuant to subsection (b) of **O.C.G.A. § 43-34-23**. These acts shall include, without being limited to, the administering and ordering of any drug. **O.C.G.A. § 43-34-23(a) (7)**.

Each registered professional nurse (RN) must have access to the current standard nurse protocol(s), under which the RN is practicing at the practice site. Each RN may have his/her individual set of standard nurse protocols which are signed by the nurse and the delegating physician(s) or there may be one set of standard nurse protocols which each RN and the delegating physician(s) sign.

#### 2. Order

Order means to select a drug, medical treatment or diagnostic study through physician delegation in accordance with a nurse protocol or a physician assistant's job description. Ordering under such delegation shall not be construed to be prescribing, which act can only be performed by the physician, nor shall ordering of a drug be construed to authorize the issuance of a written prescription. **O.C.G.A. § 43-34-23(a) (8)**.

The RN shall write the drug order in accordance with the nurse protocol and based on a client assessment each time the drug is ordered. If the client's continues the drug on subsequent visits, the nurse must reorder the drug based on the nurse protocol. Documentation of the written drug order by the RN shall include the following components:

# Protocols to Prevent DVTs



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## Indiana Hospitals Use AHRQ Tool to Revise Protocols for Preventing Venous Thromboembolism

[Search All Impact Case Studies](#)

### Patient Safety

**November 2011**

Between January and September 2010, AHRQ partnered with seven Quality Improvement Organizations (QIOs) to deliver a series of onsite learning sessions and provider support calls for implementing the AHRQ-funded toolkit, *Preventing Hospital-Acquired Venous Thromboembolism: A Guide for Effective Quality Improvement*. These events were part of a QIO Learning Network established through an AHRQ Knowledge Transfer project. As a result of this project, Health Care Excel, the QIO for Indiana, worked with four hospitals in the State to revise their VTE protocols.

The AHRQ toolkit is a comprehensive guide to help hospitals and clinicians implement processes to prevent dangerous blood clots. The 60-page guide details how to start, implement, evaluate, and sustain a quality improvement strategy. It includes case studies, as well as forms that clinicians can use. The toolkit advises hospitals to establish VTE prevention protocols to assess patients' risk for hospital-acquired VTEs and select the best method for preventing the condition.

The toolkit encourages hospitals to discard commonly used protocols that assign points to risk factors for VTEs in order to determine the appropriate treatment option. Instead, the guide encourages hospitals to adopt protocols that group patients into three risk categories. Each category is associated with a clear set of recommendations about the most appropriate measures to prevent VTEs. The guide also advises hospitals to provide drug therapy to prevent clots to all patients at moderate or high risk of developing VTEs.

**St. Catherine's Hospital** in East Chicago, Indiana, **St. Mary Medical Center** in Hobart, and **Community Hospital** in

# CaUTI Protocols



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## AHRQ Patient Safety Toolkit Helps Hospitals Reduce Catheter-Associated Urinary Tract Infections (CAUTI)

Press Release Date: November 19, 2015

As part of its ongoing efforts to make health care safer, the [Agency for Healthcare Research and Quality \(AHRQ\)](#) today released a new toolkit to help hospitals prevent catheter-associated urinary tract infections (CAUTIs).

CAUTIs are healthcare-associated infections (HAIs) that cause suffering for approximately 250,000 hospital patients each year at a cost of about \$250 million. CAUTIs are largely preventable, and stopping them can reduce the chance that hospital superbugs will develop resistance to overused antibiotics.

The new *Toolkit for Reducing CAUTI in Hospitals* was developed as part of a 4-year AHRQ project launched in 2011 to promote the use of the Comprehensive Unit-based Safety Program (CUSP). Preliminary results indicate that CAUTI rates were reduced by approximately 15 percent. CUSP also has been proven to reduce other HAIs such as central line-associated bloodstream infections.

"This toolkit is a significant medical and public health advance that will prevent suffering for many patients and reduce the need for them to take antibiotics," said AHRQ Director Richard Kronick, Ph.D. "The CUSP toolkit is particularly important given that providers nationwide have been struggling to reduce CAUTIs in recent years."

The new toolkit helps hospitals apply the CUSP principles to prevent CAUTI in patients and improve safety culture at the unit level. The toolkit is the latest in a series of AHRQ tools and training materials that help frontline providers go beyond the "what" of improving care to actually show them "how" to make changes in workflow processes to keep patients safer.

An HAI is an infection that a patient contracts in a health care setting while being treated for another condition. At any given time, one out of every 25 hospitalized patients in the United States has an HAI. CAUTI is a common type of HAI; it develops when bacteria enter a patient's body through a urinary catheter and cause infection. Approximately one-

# STEMI Protocol is a Common One

The screenshot shows a hospital website page for the STEMI Protocol. The header includes the Froedtert & Medical College of Wisconsin logo, the phone number 1-800-DOCTORS, and a search bar. The navigation menu has tabs for Medical Services, Locations, Patients & Visitors, Quality, Research, and Health Resources. The breadcrumb trail reads: Home » Locations » St. Joseph's » Medical Services » Emergency Care Center » STEMI Protocol. The left sidebar lists navigation options: About Us, Locations & Maps, Medical Services (with sub-items: Birth Center, Cancer Care, Emergency Care Center, Medical Emergency, Why Choose St. Joseph's for Emergency Care, What to Expect When You Arrive), STEMI Protocol, and EMS. The main content area features the title 'STEMI Protocol' and a paragraph explaining that STEMI stands for ST-elevation myocardial infarction, a critical heart attack caused by blocked blood supply. It notes that almost 400,000 people suffer from STEMI each year, with a high risk of death and disability. Below this is a sub-header 'Best-Practice STEMI Protocol Guides St. Joseph's Staff for Severe Heart Attacks' and a paragraph stating that St. Joseph's works with local EMS providers to ensure the STEMI Protocol is followed, including transmitting EKG data to the Emergency Care Center. A 'Contact Us' sidebar on the right provides the phone number 262-836-8257 and a 'View Treatment Team' button. Another sidebar on the right lists the location at St. Joseph's Hospital, 3200 Pleasant Valley Road, West Bend, WI 53095, and lists other emergency departments: Froedtert Hospital, Milwaukee and Community Memorial Hospital, Menomonee Falls.

**Froedtert & MEDICAL COLLEGE of WISCONSIN**

**1-800-DOCTORS**  
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## St. Joseph's

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- Medical Services
  - Birth Center
  - Cancer Care
  - Emergency Care Center
  - Medical Emergency
  - Why Choose St. Joseph's for Emergency Care
  - What to Expect When You Arrive
- STEMI Protocol**
- EMS

## STEMI Protocol

According to the American Heart Association, "STEMI" is an abbreviation for "ST-elevation myocardial infarction," the most critical [heart attack](#). It is caused by a prolonged period of blocked blood supply that affects a large area of the heart. Almost 400,000 people suffer from a STEMI heart attack each year, which carries a substantial risk of death and disability. Thousands of patients with STEMI fail to receive critical treatment in a timely fashion; some do not receive the care they need at all.

### Best-Practice STEMI Protocol Guides St. Joseph's Staff for Severe Heart Attacks

St. Joseph's works with local [emergency medical services \(EMS\) providers](#) to ensure that the STEMI Protocol of care is in place as soon as possible when a heart attack is suspected. This means EMS personnel will begin transmitting the patient's [EKG](#) and other information about their heart condition to St. Joseph's Emergency Care Center as soon as possible upon arrival at the scene. Based on the information they receive, the St. Joseph's ECC staff will advise EMS regarding which hospital is right for the patient's needs – [St. Joseph's](#) or [Froedtert & the Medical College of Wisconsin](#).

### Contact Us

**Dial 911 in an emergency**

For emergency department:

**262-836-8257**

[View Treatment Team](#)

### Location

**St. Joseph's Hospital**  
3200 Pleasant Valley Road  
West Bend, WI 53095

#### More Emergency Departments

- ▶ Froedtert Hospital, Milwaukee
- ▶ Community Memorial Hospital, Menomonee Falls

# TKA Is a Common Protocol

## BRIGHAM AND WOMEN'S HOSPITAL

A Teaching Affiliate of Harvard Medical School  
75 Francis St., Boston, Massachusetts 02115

[www.brighamandwomens.org/Patients\\_Visitors/pcs/rehabilitationservices/Physical%20Therapy%20Standards%20of%20Care%20and%20Protocols/Knee%20-](http://www.brighamandwomens.org/Patients_Visitors/pcs/rehabilitationservices/Physical%20Therapy%20Standards%20of%20Care%20and%20Protocols/Knee%20-)

Department of Rehabilitation Services

## **Total Knee Arthroplasty Protocol:**

The intent of this physical therapy protocol is to provide the clinician with a guideline of the post-operative rehabilitation course of a patient who has undergone a total knee arthroplasty (TKA) at Brigham and Women's Hospital (BWH). It is by no means intended to be a substitute for one's clinical decision making regarding the progression of a patient's post-operative course based on their physical exam/findings, individual progress, and/or the presence of post-operative complications. If a clinician requires assistance in the progression of a post-operative patient, the clinician should consult with the referring surgeon.

*This physical therapy protocol applies to primary total knee arthroplasty. In a revision total knee arthroplasty, or in cases where there is more connective tissue involvement, Phase I and II should be progressed with more caution to ensure adequate healing.*

**Progression to the next phase is based on Clinical Criteria and/or Time Frames as appropriate.**

### **Pain Management**

Adequate pain control after TKA is important in expediting patient progress with mobility and range of motion after surgery. This in turn may result in a shorter hospital stay and improved patient satisfaction.

Pain management following TKA at Brigham and Women's Hospital (BWH) is multimodal and may include:

- *Pre-operative dose of medications including Acetaminophen and/or Celebrex.*

# The End! Questions?



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- President of Patient Safety and  
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- [sdill1@columbus.rr.com](mailto:sdill1@columbus.rr.com)  
(Call with Questions, No emails)

# Resources

- July 16, 2012 section, in the Federal Register, Vol. 77, No. 95, Page 29034, on standing orders, order sets, and protocols is published at [www.federalregister.gov/articles/2012/05/16](http://www.federalregister.gov/articles/2012/05/16)
- CMS Survey Memo, October 24, 2008, “Standing Orders in Hospitals” Revisions to S&C Memoranda, at [www.cms.gov/SurveyCertificationGenInfo/PMSR/list.asp#TopOfPage](http://www.cms.gov/SurveyCertificationGenInfo/PMSR/list.asp#TopOfPage)

# Resources

- See also [www.guidelines.org](http://www.guidelines.org)
- See tag number 405, 407, and 450 in the CMS Hospital CoP, Appendix A, which is located at [www.cms.hhs.gov/manuals/downloads/som107\\_AppendixA.pdf](http://www.cms.hhs.gov/manuals/downloads/som107_AppendixA.pdf)
- Institute for Clinical Systems Improvement (ICSI) website has order sets and guidelines at <https://www.icsi.org/>
  - Has updated monthly list of guidelines, orders sets, protocols etc.

# Resources

- Promoting Best Practice and Safety Through Preprinted Orders at [www.ahrq.gov/downloads/pub/advances2/vol2/Advances-Ehringer\\_17.pdf](http://www.ahrq.gov/downloads/pub/advances2/vol2/Advances-Ehringer_17.pdf)
- ISMP Standard Order Sets at [www.ismp.org/newsletters/acutecare/articles/20100311.asp](http://www.ismp.org/newsletters/acutecare/articles/20100311.asp)
- Preprinted Order Sets as a Safety Intervention in Pediatric Sedation, J Pediatrics 2009, June:154(6):865-8 at <http://www.ncbi.nlm.nih.gov/pubmed/19181332>

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# Thanks for attending!



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