Emergency Department - Charge Process

There are five components to the charge process for the Emergency Room:

1. **Assignment of evaluation and management level**
2. **Nursing procedures**
3. **Hospital technical component of physician procedures**
4. **Medical supplies**
5. **Drugs sold to Patients**

Assignment of the evaluation and management level:

The assignment of an ED E&M level is based on Nursing and hospital resources used for treating the Patient. The process is to assign a point value to each Nursing service or resource which cannot be separately charged to the Patient, the sum of the point values are then "fitted" to a scale to determine the level.

CMS has stated that it is not expecting to see the same E&M level charged for the Hospital as the Physician.

There are six E&M levels to be selected:

1. **Brief – exam only with possibly a med script**
2. **Limited – Requires the assessment of a single symptom with limited testing or time spend with the Patient**
3. **Intermediate – several different diagnostic tests, child requiring restraint**
4. **Extended – Interventions and diagnostic testing, possible admit to hospital as observation or inpatient**
5. **Comprehensive – Major interventions or diagnostic testing, possible admit to hospital as a inpatient**
6. **Critical – Requires close attendance and major interventions or diagnostic testing for a extended period of time, admit to hospital**

Hospitals may also charge a "sub brief visit" for the following:

1. **Triage only**
2. **Suture removal**
3. **Wound check**

Assignment of the evaluation and management level (continued)

HCPCS/CPT®	APC
99281 - Emergency department visit for the evaluation and management of a patient, which requires these 3 key components: A problem focused history; A problem focused examination; and Straightforward medical decision making. Counseling and/or coordination of care with other providers or agencies are provided consistent with the nature of the problem(s) and the patient's and/or family's needs. Usually, the presenting problem(s) are self limited or minor.	0609 - Level 1 Type A Emergency Visits
99282 - Emergency department visit for the evaluation and management of a patient, which requires these 3 key components: An expanded problem focused history; An expanded problem focused examination; and Medical decision making of low complexity. Counseling and/or coordination of care with other providers or agencies are provided consistent with the nature of the problem(s) and the patient's and/or family's needs. Usually, the presenting problem(s) are of low to moderate severity.	0613 - Level 2 Type A Emergency Visits
99283 - Emergency department visit for the evaluation and management of a patient, which requires these 3 key components: An expanded problem focused history; An expanded problem focused examination; and Medical decision making of moderate complexity. Counseling and/or coordination of care with other providers or agencies are provided consistent with the nature of the problem(s) and the patient's and/or family's needs. Usually, the presenting problem(s) are of moderate severity.	0614 - Level 3 Type A Emergency Visits
99284 - Emergency department visit for the evaluation and management of a patient, which requires these 3 key components: A detailed history; A detailed examination; and Medical decision making of moderate complexity. Counseling and/or coordination of care with other providers or agencies are provided consistent with the nature of the problem(s) and the patient's and/or family's needs. Usually, the presenting problem(s) are of high severity, and require urgent evaluation by the physician but do not pose an immediate significant threat to life or physiologic function.	0615 - Level 4 Type A Emergency Visits 8003 - Level II Extended Assessment & Management Composite
99285 - Emergency department visit for the evaluation and management of a patient, which requires these 3 key components within the constraints imposed by the urgency of the patient's clinical condition and/or mental status: A comprehensive history; A comprehensive examination; and Medical decision making of high complexity. Counseling and/or coordination of care with other providers or agencies are provided consistent with the nature of the problem(s) and the patient's and/or family's needs. Usually, the presenting problem(s) are of high severity and pose an immediate significant threat to life or physiologic function.	0616 - Level 5 Type A Emergency Visits 8003 - Level II Extended Assessment & Management Composite
99291 - Critical care, evaluation and management of the critically ill or critically injured patient; first 30-74 minutes	0617 - Critical Care 8003 - Level II Extended Assessment & Management Composite
99292 - Critical care, evaluation and management of the critically ill or critically injured patient; each additional 30 minutes (List separately in addition to code for primary service)	Packaged

Assignment of the evaluation and management level (continued)

Type B ED Levels

G0380 - LEVEL 1 HOSPITAL EMERGENCY DEPARTMENT VISIT PROVIDED IN A TYPE B EMERGENCY DEPARTMENT; (THE ED MUST MEET AT LEAST ONE OF THE FOLLOWING REQUIREMENTS: (1) IT IS LICENSED BY THE STATE IN WHICH IT IS LOCATED UNDER APPLICABLE STATE LAW AS AN EMERGENCY ROOM OR EMERGENCY DEPARTMENT; (2) IT IS HELD OUT TO THE PUBLIC (BY NAME, POSTED SIGNS, ADVERTISING, OR OTHER MEANS) AS A PLACE THAT PROVIDES CARE FOR EMERGENCY MEDICAL CONDITIONS ON AN URGENT BASIS WITHOUT REQUIRING A PREVIOUSLY SCHEDULED APPOINTMENT; OR (3) DURING THE CALENDAR YEAR IMMEDIATELY PRECEDING THE CALENDAR YEAR IN WHICH A DETERMINATION UNDER 42 CFR 489.24 IS BEING MADE, BASED ON A REPRESENTATIVE SAMPLE OF PATIENT VISITS THAT OCCURRED DURING THAT CALENDAR YEAR, IT PROVIDES AT LEAST ONE-THIRD OF ALL OF ITS OUTPATIENT VISITS FOR THE TREATMENT OF EMERGENCY MEDICAL CONDITIONS ON AN URGENT BASIS WITHOUT REQUIRING A PREVIOUSLY SCHEDULED APPOINTMENT)

G0381 - LEVEL 2 HOSPITAL EMERGENCY DEPARTMENT VISIT PROVIDED IN A TYPE B EMERGENCY DEPARTMENT; (THE ED MUST MEET AT LEAST ONE OF THE FOLLOWING REQUIREMENTS: (1) IT IS LICENSED BY THE STATE IN WHICH IT IS LOCATED UNDER APPLICABLE STATE LAW AS AN EMERGENCY ROOM OR EMERGENCY DEPARTMENT; (2) IT IS HELD OUT TO THE PUBLIC (BY NAME, POSTED SIGNS, ADVERTISING, OR OTHER MEANS) AS A PLACE THAT PROVIDES CARE FOR EMERGENCY MEDICAL CONDITIONS ON AN URGENT BASIS WITHOUT REQUIRING A PREVIOUSLY SCHEDULED APPOINTMENT; OR (3) DURING THE CALENDAR YEAR IMMEDIATELY PRECEDING THE CALENDAR YEAR IN WHICH A DETERMINATION UNDER 42 CFR 489.24 IS BEING MADE, BASED ON A REPRESENTATIVE SAMPLE OF PATIENT VISITS THAT OCCURRED DURING THAT CALENDAR YEAR, IT PROVIDES AT LEAST ONE-THIRD OF ALL OF ITS OUTPATIENT VISITS FOR THE TREATMENT OF EMERGENCY MEDICAL CONDITIONS ON AN URGENT BASIS WITHOUT REQUIRING A PREVIOUSLY SCHEDULED APPOINTMENT)

G0382 - LEVEL 3 HOSPITAL EMERGENCY DEPARTMENT VISIT PROVIDED IN A TYPE B EMERGENCY DEPARTMENT; (THE ED MUST MEET AT LEAST ONE OF THE FOLLOWING REQUIREMENTS: (1) IT IS LICENSED BY THE STATE IN WHICH IT IS LOCATED UNDER APPLICABLE STATE LAW AS AN EMERGENCY ROOM OR EMERGENCY DEPARTMENT; (2) IT IS HELD OUT TO THE PUBLIC (BY NAME, POSTED SIGNS, ADVERTISING, OR OTHER MEANS) AS A PLACE THAT PROVIDES CARE FOR EMERGENCY MEDICAL CONDITIONS ON AN URGENT BASIS WITHOUT REQUIRING A PREVIOUSLY SCHEDULED APPOINTMENT; OR (3) DURING THE CALENDAR YEAR IMMEDIATELY PRECEDING THE CALENDAR YEAR IN WHICH A DETERMINATION UNDER 42 CFR 489.24 IS BEING MADE, BASED ON A REPRESENTATIVE SAMPLE OF PATIENT VISITS THAT OCCURRED DURING THAT CALENDAR YEAR, IT PROVIDES AT LEAST ONE-THIRD OF ALL OF ITS OUTPATIENT VISITS FOR THE TREATMENT OF EMERGENCY MEDICAL CONDITIONS ON AN URGENT BASIS WITHOUT REQUIRING A PREVIOUSLY SCHEDULED APPOINTMENT)

G0383 - LEVEL 4 HOSPITAL EMERGENCY DEPARTMENT VISIT PROVIDED IN A TYPE B EMERGENCY DEPARTMENT; (THE ED MUST MEET AT LEAST ONE OF THE FOLLOWING REQUIREMENTS: (1) IT IS LICENSED BY THE STATE IN WHICH IT IS LOCATED UNDER APPLICABLE STATE LAW AS AN EMERGENCY ROOM OR EMERGENCY DEPARTMENT; (2) IT IS HELD OUT TO THE PUBLIC (BY NAME, POSTED SIGNS, ADVERTISING, OR OTHER MEANS) AS A PLACE THAT PROVIDES CARE FOR EMERGENCY MEDICAL CONDITIONS ON AN URGENT BASIS WITHOUT REQUIRING A PREVIOUSLY SCHEDULED APPOINTMENT; OR (3) DURING THE CALENDAR YEAR IMMEDIATELY PRECEDING THE CALENDAR YEAR IN WHICH A DETERMINATION UNDER 42 CFR 489.24 IS BEING MADE, BASED ON A REPRESENTATIVE SAMPLE OF PATIENT VISITS THAT OCCURRED DURING THAT CALENDAR YEAR, IT PROVIDES AT LEAST ONE-THIRD OF ALL OF ITS OUTPATIENT VISITS FOR THE TREATMENT OF EMERGENCY MEDICAL CONDITIONS ON AN URGENT BASIS WITHOUT REQUIRING A PREVIOUSLY SCHEDULED APPOINTMENT)

G0384 - LEVEL 5 HOSPITAL EMERGENCY DEPARTMENT VISIT PROVIDED IN A TYPE B EMERGENCY DEPARTMENT; (THE ED MUST MEET AT LEAST ONE OF THE FOLLOWING REQUIREMENTS: (1) IT IS LICENSED BY THE STATE IN WHICH IT IS LOCATED UNDER APPLICABLE STATE LAW AS AN EMERGENCY ROOM OR EMERGENCY DEPARTMENT; (2) IT IS HELD OUT TO THE PUBLIC (BY NAME, POSTED SIGNS, ADVERTISING, OR OTHER MEANS) AS A PLACE THAT PROVIDES CARE FOR EMERGENCY MEDICAL CONDITIONS ON AN URGENT BASIS WITHOUT REQUIRING A PREVIOUSLY SCHEDULED APPOINTMENT; OR (3) DURING THE CALENDAR YEAR IMMEDIATELY PRECEDING THE CALENDAR YEAR IN WHICH A DETERMINATION UNDER 42 CFR 489.24 IS BEING MADE, BASED ON A REPRESENTATIVE SAMPLE OF PATIENT VISITS THAT OCCURRED DURING THAT CALENDAR YEAR, IT PROVIDES AT LEAST ONE-THIRD OF ALL OF ITS OUTPATIENT VISITS FOR THE TREATMENT OF EMERGENCY MEDICAL CONDITIONS ON AN URGENT BASIS WITHOUT REQUIRING A PREVIOUSLY SCHEDULED APPOINTMENT)

Assignment of the evaluation and management level (continued):

There are a number of "systems" to determine the ED level:

1. **Point assignment, accumulation of resources and "fit" to a level.**
2. **T sheet documentation and leveling**
3. **Charge on documentation, automated point assignment and leveling**
4. **American College of Emergency Physicians**
5. **AHIMA draft on ED level assignment**
6. **Chart based diagnosis**

Point Assignment, accumulation of resources and "fit" to a level.

PTS	VALUE	DESCRIPTION
		CATEGORY I
	1 PER VISIT	ARRANGE FOR ADMISSION
	3 PER VISIT	ARRANGE TRANSFER/MOT/TRANSPORTATION
	1 PER 15 MIN.	ASSIST W/SETUP PHYSICIAN PROCEDURE
	1 PER VISIT, EA	ASSIST RESTRAINT/MOBILITY/FEEDING/BATHING
	1 PER VISIT	DIAGNOSTICS ORDERED-CARDIOPULMONARY
	1 PER VISIT	DIAGNOSTICS ORDERED-IMAGING
	1 PER VISIT	DIAGNOSTICS ORDERED-LABORATORY
	1 PER VIST	DISCHARGE INSTR. GIVEN & REVIEWED
	2 PER VISIT	MIGN SERVICES
	1 PER VISIT	MULTIPLE CALLS FOR ANCILLARY SERVICES
	1 PER 60 MIN.	OBSERVATION EA MIN AFTER 1ST HR

TOTAL POINTS ALL CATEGORIES:		
PTS	**ASSIGN LEVEL:**	**ASSIGN HCPCS:**
1	TRIAGE	
2	LEVEL 1	99281
3-5	LEVEL 2	99282
6-8	LEVEL 3	99283
9-12	LEVEL 4	99284
13-16	LEVEL 5	99285
17 & >	LEVEL 6	99291 = 1ST 30-74 MINUTES

Assignment of the evaluation and management level (continued):

T Sheet - Combined documentation and level assignment

TRIAGE DATE_____ TIME_____ 1 2 3 4 5

NAME:_____
D.O.B:_____ AGE:_____ M / F
HISTORIAN: patient paramedics family_____
♦BARRIERS: learning communication *interpreter*_____

ARRIVAL MODE: car [3]EMS[3] police_____
IMMUNIZATIONS: flu_____ pneumovax_____

TREATMENT PTA see EMS report IV O_2_____
last blood glucose_____mg/dL ★ ASA_____

VITALS Height_____ Weight_____kg
BP_____/_____ P_____ RR_____ Temp_____°F *TM O R*
SpO_2_____ % RA /_____L O_2 via NC / mask

PAIN LEVEL (1/10) current: ___/10 max ___/10 acceptable___/10
scale used- Wong-Baker FLACC_____

CHIEF COMPLAINT _____
started _____ *min / hrs / days ago*_____

high blood pressure_____ high / low blood sugar_____

TIME TO ROOM:_____ ROOM:_____

[1]PRIMARY ASSESSMENT[1] TIME:_____

__Airway *patent* __compromised_____
__Breathing *unlabored* __labored / respiratory distress_____
__Circulation *nml* __pale / diaphoretic_____
__neuro *awake alert* __lethargic / obtunded_____

SECONDARY ASSESSMENT

NEURO
__oriented x 4
__PERRL
__disoriented to_____
person place time situation
__pupils unequal R_____ L_____
__weakness / sensory loss_____

EENT
__nml eye inspection
__nml ENT inspection
__scleral icterus / pale / red conjunctivae____
__nasal drainage_____
__epistaxis_____

CHEST
__nml breath sounds
__non-tender
__wheezing / rales / rhonchi_____
__decreased breath sounds_____
__deformity_____

CVS
__regular rate
__pulses strong & equal
__tachycardia / bradycardia_____
__pulse deficit_____

ABDOMEN / GU
__nml inspection
__soft, non-tender
__bowel sounds nml
__tenderness / guarding / rebound_____
__rigid / distended_____
__bowel sounds *hyper hypo absent*_____
__catheter present

American College of Emergency Physicians

http://www.acep.org/content.aspx?id=30428

Assignment of the evaluation and management level (continued):

AHIMA draft on ED level assignment

http://library.ahima.org/xpedio/groups/public/documents/ahima/bok1_021426.hcsp?dDocName=bok1_021426

Recommendation for Standardized Hospital Evaluation and Management Coding of Emergency Department and Clinic Services

Produced by the Hospital Evaluation and Management Coding Panel of the American Hospital Association and American Health Information Management Association

June 24, 2003

EXECUTIVE SUMMARY

Background

Since the inception of the Medicare hospital outpatient prospective payment system (HOPPS) in August 2000, hospitals have been coding clinic and emergency department visits using the same CPT ® codes as physicians. But, these evaluation and management (E/M) codes describe professional services, not the services provided by the facility. In response, the Centers for Medicare & Medicaid Services (CMS) has allowed each facility to develop unique internal guidelines to report clinic and emergency department services provided by hospitals by mapping them to the levels of effort represented by the existing CPT ® codes. As a result, today, each hospital has its own E/M methodology, although hospitals within the same health system may have the same or similar methodologies.

Assignment of the evaluation and management level (continued):

AHIMA draft on ED level assignment

http://library.ahima.org/xpedio/groups/public/documents/ahima/bok1_021423.pdf

Emergency Department E/M Model 6/16/03 Draft

Definition of Emergency Department Visit

A patient who presents to the emergency department for services, is registered and receives one or more of the clinical interventions listed below.

Level 1 (Low Level) Interventions

At least one item below qualifies for low level. Additional explanations, examples and clarifications appear in italics. Items below as performed by hospital staff, rather than physician. Three or more of the interventions identified by an asterisk qualify for mid-level (level 2). Each line item may only be used once towards this increase.

*** Administration of oral, topical, rectal, PR, NG or SL medication(s)**	
*** Administration of single disposable enema**	
*** Application of preformed splint(s)/elastic bandage(s)/sling(s), or immobilizer(s) for non-fracture or nondislocation injuries**	*Preformed are off-the shelf. If creating a splint from plaster or fiberglass or other material, would have separate code. Splints are not billed separately.* *Splints, casting, etc. for fractures are separately billable and paid under the fracture management.*
*** Assisting physician with examination(s)**	*Pelvic exam included here. Includes eye exam/slit lamp exam of eye. Nursing documentation must support assistance, unless there is a hospital protocol regarding assistance with exam.*
*** Bedside diagnostic testing, unless tests are separately billed.**	*Examples: Dip stick urine testing, capillary blood sugar (Accucheck, Dextrostick), hemoccult, occult blood tests. Strep test is not included because it is separately billable.*
*** Cleaning and dressing of a wound, single body area, not repaired (but includes butterflies)**	*Examples: steri-strips and other adhesives, eye patch*
*** First aid procedures**	*Examples: control bleeding, ice, monitor vital signs, cool body, remove stinger from insect bite, cleanse and remove secretions*
*** Flushing of Heplock**	
Follow-up visit	*Definition: Patient instructed to return for wound check or suture removal or rabies injection series.*
*** Foreign body(ies) removal of skin, subcutaneous or soft tissue without anesthesia or incision**	

Assignment of the evaluation and management level (continued):

Chart based diagnosis

Community Hospital - ED Level Assignment - Feb 2011

Level 1

Procedures

- Triage
- Teaching for Patient and family
- Discharge instructions
- Suture removal
- Simple dressing change
- Refill Rx

Diagnosis

- Insect / spider bite
- Suture removal
- Wound re-check
- Off work order
- Return to work order
- Med refill
- Rash

Level 2

Procedures

- PO Meds
- Point of care testing
- Visual acuity

Diagnosis

- Ear Pain
- UTI
- Simple sprain
- Conjunctivitis
- Simple wound eval
- Upper resp. infection
- Chronic Back pain
- Sore throat
- Chronic cough
- Fever
- Headache
- Leg Pain
- Ingrown toe nail
- 1st degree burn

Level 3

Procedures

- Hep lock
- Single diagnostic test
- 2 pain assessments
- Oxy admin
- Complex discharge instruction
- EMS
- Single therapeutic process

Diagnosis

- Acute back pain
- Extensive wound eval
- Adult asthma
- Abd pain
- Eval simple fx
- Migraine
- Chronic chest pain
- Acute Bronchitis
- COPD
- Hypertension
- Abscess - simple
- Flu
- Foreign Body ear / nose
- Allergic reaction
- Animal bite
- Dental Pain
- Assault
- 2nd degree burn

Level 4

Procedures

- Slit lamp exam
- Morgan lens
- Cervical exam
- Multi diagnostic test
- NG/Peg tube - reinsert
- Cardiac monitor / pulse ox
- 3 - 6 pain assessments
- Multiple therapeutic process

Diagnosis

- Acute panic
- Foreign Body eye
- Acute headache
- Dyspnea w meds
- 5150 less than 4 hours
- Child asthma
- Vaginal bleeding
- DOA post mortem care
- Altered LOC
- Complex fx - open / multi
- Admit to Observation
- Admit to Med/Surg
- Cellulitis
- GI Bleed
- Kidney stone
- Syncope
- Hypertension
- Short of breath
- Angina
- Assault with report

Level 5

Procedures

- Admit to
- Transport with RN
- Transport with Monitor
- Conscious sedation
- > 7 pain assessments

Diagnosis

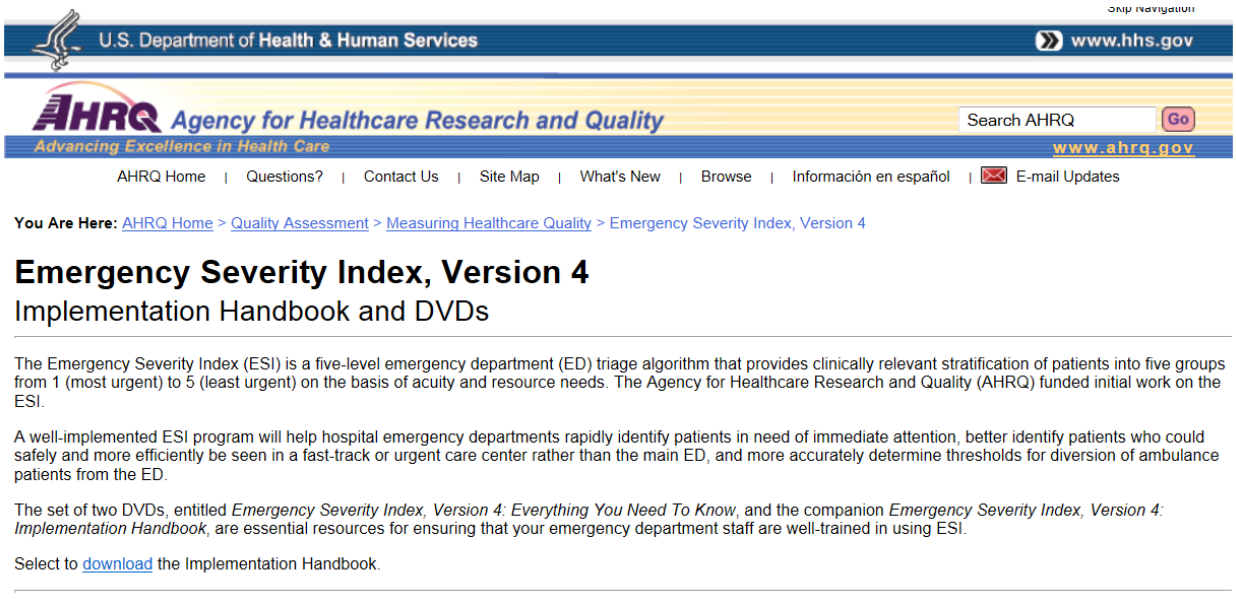
- Acute chest pain
- Sepsis
- DKA
- HHNT
- 5150 greater than 4 hours
- ETOH / Overdose
- Resp. distress
- Hypertensive Crisis
- Angina
- Complete cardiac eval
- 3rd degree burn

Assignment of the evaluation and management level (continued):

Critical care Patients may not require the assignment of points due to their extreme resource consumption; several of the "life saving interventions" a critical care Patient may have (based on the Emergency Severity Index, Version 4) are as follows:

1. **BVM ventilation**
2. **Intubation**
3. **Surgical airway**
4. **Emergent BIPAP/CPAP**
5. **Defibrillation**
6. **Emergent cardio version**
7. **External pacing**
8. **Chest needle decompression**
9. **Pericardiocentesis**
10. **Open thoracotomy**
11. **Intraosseous access**
12. **Significant IV fluid resuscitation**
13. **Blood administration**
14. **Control of major of bleeding**
15. **Admin of medications – Naloxone, D50, Dopamine, Adenocard**

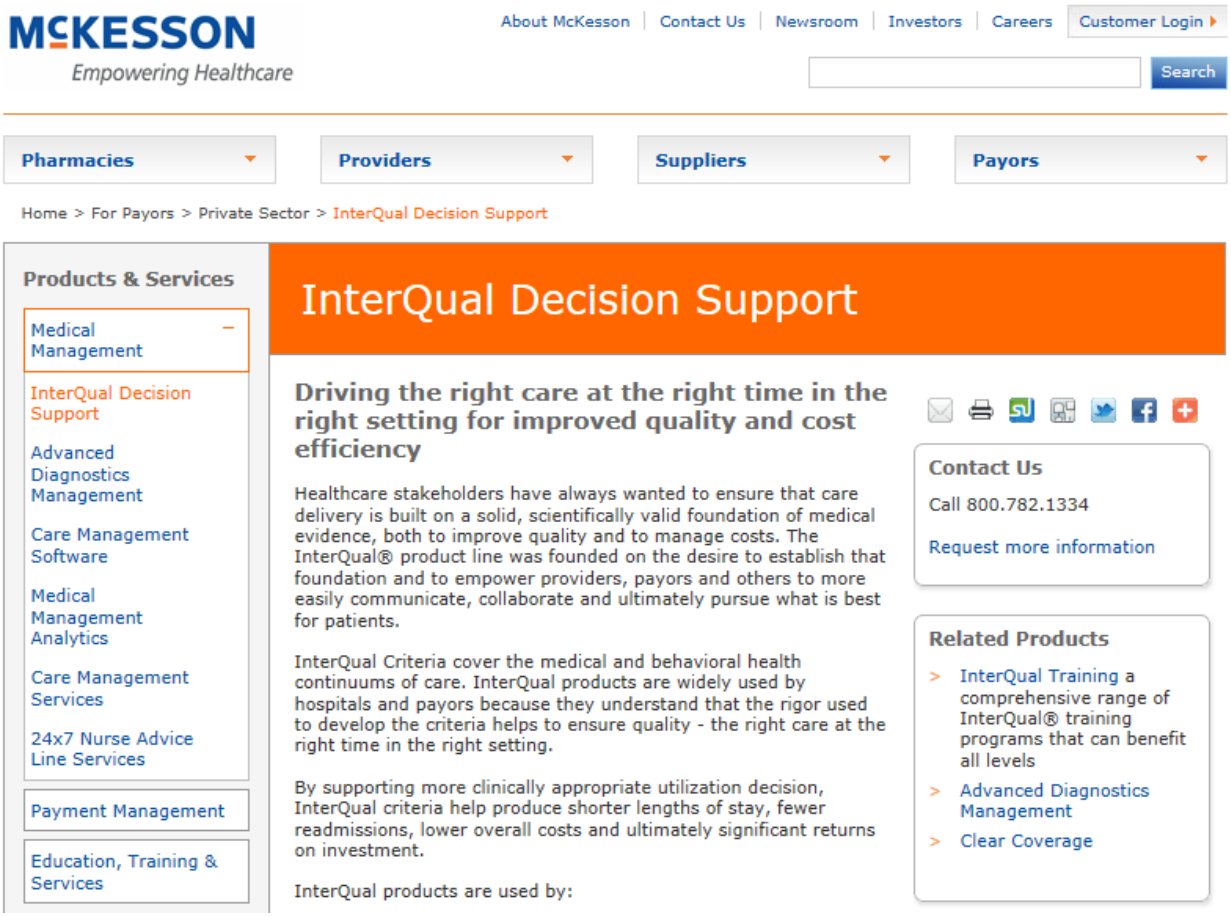
http://www.ahrq.gov/research/esi/



Assignment of the evaluation and management level (continued):

Patients admitted as observation or inpatients must meet InterQual or a similar case management standard to be sure the admission is approved for reimbursement.

http://www.mckesson.com/en_us/McKesson.com/For%2BPayors/Private%2BSector/InterQual%2BDecision%2BSupport/InterQual%2BDecision%2BSupport.html



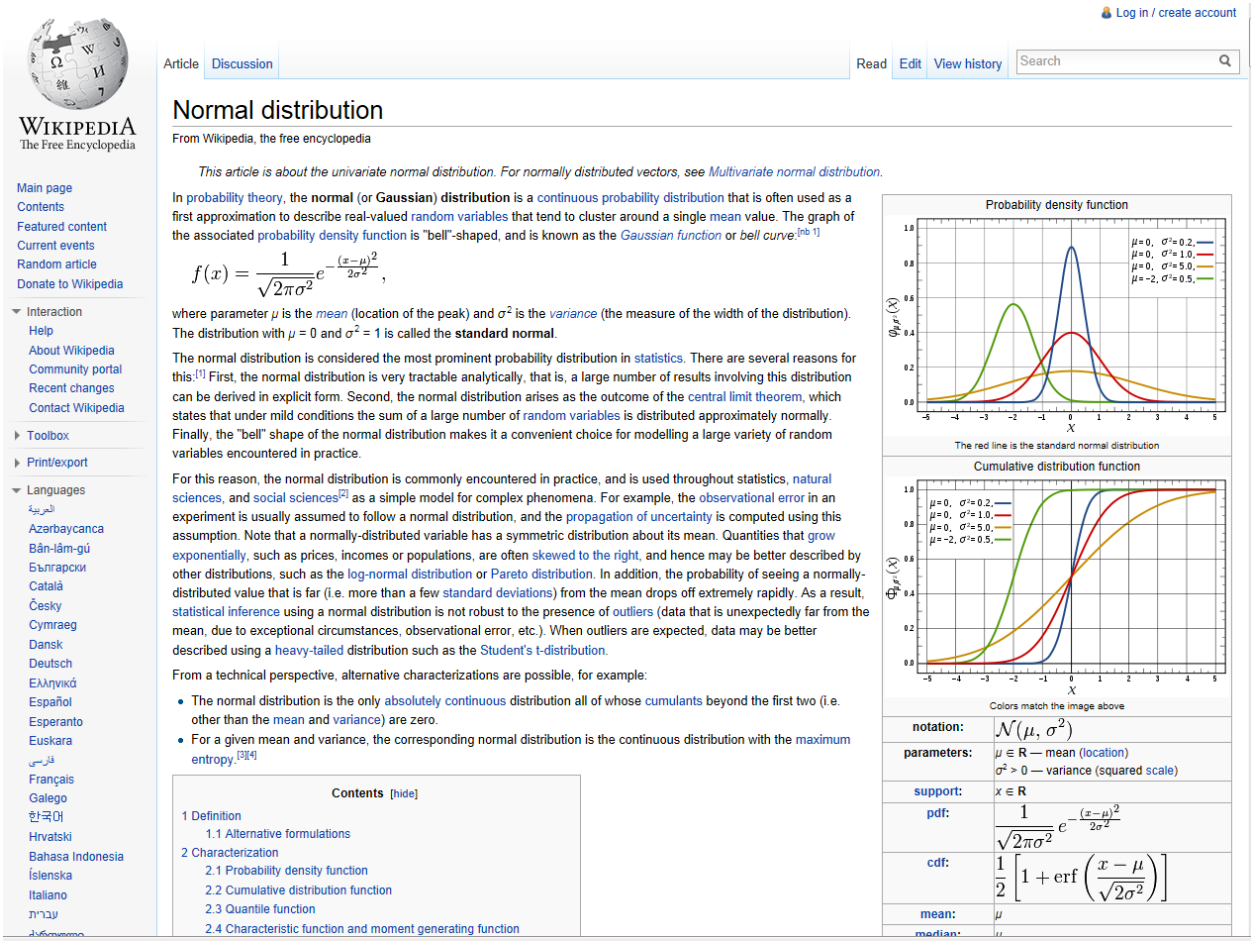
Patients held an extended period of time to be prepped for surgery, stabilization or admission will be assigned additional points or resources for level assignment.

It is usually the case that a pregnant woman will be triaged at the ED and then “referred” to the obstetric department for an OB medical screen. This sometimes results in duplicate evaluation and management charges, ED and OB. It is suggested that the “discharging” department be the department to charge the E&M visit charge.

Assignment of the evaluation and management level (continued):

As presented there are a number of methods to determine the E&M levels. Within the annual release of the OPPS Rule, there is a yearly recommendation that a hospital establish a process to assign the levels and that the process be documented for replication. There is also an expectation that the distribution of the E&M levels (99281 – 99285) by frequency of visits follow a normal distribution (ie bell shape curve).

http://en.wikipedia.org/wiki/Normal_distribution



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Normal distribution

From Wikipedia, the free encyclopedia

This article is about the univariate normal distribution. For normally distributed vectors, see Multivariate normal distribution.

In probability theory, the **normal** (or **Gaussian**) **distribution** is a continuous probability distribution that is often used as a first approximation to describe real-valued random variables that tend to cluster around a single mean value. The graph of the associated probability density function is "bell"-shaped, and is known as the *Gaussian function* or *bell curve*:[nb 1]

$$f(x) = \frac{1}{\sqrt{2\pi\sigma^2}} e^{-\frac{(x-\mu)^2}{2\sigma^2}},$$

where parameter μ is the *mean* (location of the peak) and σ^2 is the *variance* (the measure of the width of the distribution). The distribution with $\mu = 0$ and $\sigma^2 = 1$ is called the **standard normal**.

The normal distribution is considered the most prominent probability distribution in statistics. There are several reasons for this:[1] First, the normal distribution is very tractable analytically, that is, a large number of results involving this distribution can be derived in explicit form. Second, the normal distribution arises as the outcome of the central limit theorem, which states that under mild conditions the sum of a large number of random variables is distributed approximately normally. Finally, the "bell" shape of the normal distribution makes it a convenient choice for modelling a large variety of random variables encountered in practice.

For this reason, the normal distribution is commonly encountered in practice, and is used throughout statistics, natural sciences, and social sciences[2] as a simple model for complex phenomena. For example, the observational error in an experiment is usually assumed to follow a normal distribution, and the propagation of uncertainty is computed using this assumption. Note that a normally-distributed variable has a symmetric distribution about its mean. Quantities that grow exponentially, such as prices, incomes or populations, are often skewed to the right, and hence may be better described by other distributions, such as the log-normal distribution or Pareto distribution. In addition, the probability of seeing a normally-distributed value that is far (i.e. more than a few standard deviations) from the mean drops off extremely rapidly. As a result, statistical inference using a normal distribution is not robust to the presence of outliers (data that is unexpectedly far from the mean, due to exceptional circumstances, observational error, etc.). When outliers are expected, data may be better described using a heavy-tailed distribution such as the Student's t-distribution.

From a technical perspective, alternative characterizations are possible, for example:

- The normal distribution is the only absolutely continuous distribution all of whose cumulants beyond the first two (i.e. other than the mean and variance) are zero.
- For a given mean and variance, the corresponding normal distribution is the continuous distribution with the maximum entropy.[3][4]

Contents [hide]

1 Definition
1.1 Alternative formulations
2 Characterization
2.1 Probability density function
2.2 Cumulative distribution function
2.3 Quantile function
2.4 Characteristic function and moment generating function

Probability density function

The red line is the standard normal distribution

Cumulative distribution function

Colors match the image above

notation:	$\mathcal{N}(\mu, \sigma^2)$
parameters:	$\mu \in \mathbb{R}$ — mean (location) $\sigma^2 > 0$ — variance (squared scale)
support:	$x \in \mathbb{R}$
pdf:	$\frac{1}{\sqrt{2\pi\sigma^2}} e^{-\frac{(x-\mu)^2}{2\sigma^2}}$
cdf:	$\frac{1}{2}\left[1 + \operatorname{erf}\left(\frac{x-\mu}{\sqrt{2\sigma^2}}\right)\right]$
mean:	μ
median:	μ

Nursing Procedures:

There are many separately billable Nursing procedures which create line item reimbursement:

1. **IV therapy**
2. **Hydration therapy**
3. **Injections sq/im and injection into IV lines**
4. **Catheter insertions**
5. **Vaccine injections**
6. **Strapping and casting (if no reduction or relocation)**
7. **PICC line inserts**
8. **Point of care lab tests**
9. **Blood draw from a fully implanted port**
10. **Blood draw from a central or PICC line**
11. **Declotting by thrombolytic agent of a "implanted" vascular access device**

The billable Nursing procedures are listed on the charge form and multiple services can be checked for additional and subsequent procedures.

Services which are not separately billable (to be considered part of the point / resource assignment ED level):

1. **IV starts**
2. **Install Hep line / Saline lock**
3. **Fecal impaction**
4. **Ear wax removal**
5. **Steri-strip application**
6. **Cleaning of wounds without a closure**
7. **Hep / saline lock flush**

Nursing Procedures:

There are many rules on the admin of IV hydration, IV med therapy, and injections into an IV line. The basic rule is that only a single "initial or 1st" infusion or injection can be charged.

1. **96365 – IV med therapy - 1st hour**
2. **96366 - IV med therapy - each additional hour**
3. **96374 – IV med injection – 1st med**
4. **96375 – IV med injection – 2nd med subsequent injection**
5. **96376 – IV med injection – 1st med subsequent injection**
6. **96360 – IV hydration – 1st hour**
7. **96361 – IV hydration – each additional hour**

A hydration must be supported by a diagnosis; a 1st hour IV med therapy must last a minimum of 15 minutes, otherwise it is to be considered an IV injection.

Hydration, IV Infusions, Injections and Vaccine Charge Process

There has been several Local Coverage Determinations published in the last month which impact this process, this paper has been updated to review the additional restrictions.

There are a number of items to be considered when billing for the Nursing service to perform drug therapy, the charge process is divided into three specific groups of codes and processes.

1. **Hydration and IV Therapy**
2. **Injections into IV lines and intramuscular**
3. **Vaccines**

Hydration and IV Therapy:

Hydration and IV therapy are time based charges, which have a first hour and a subsequent hour.

The codes are as follows:

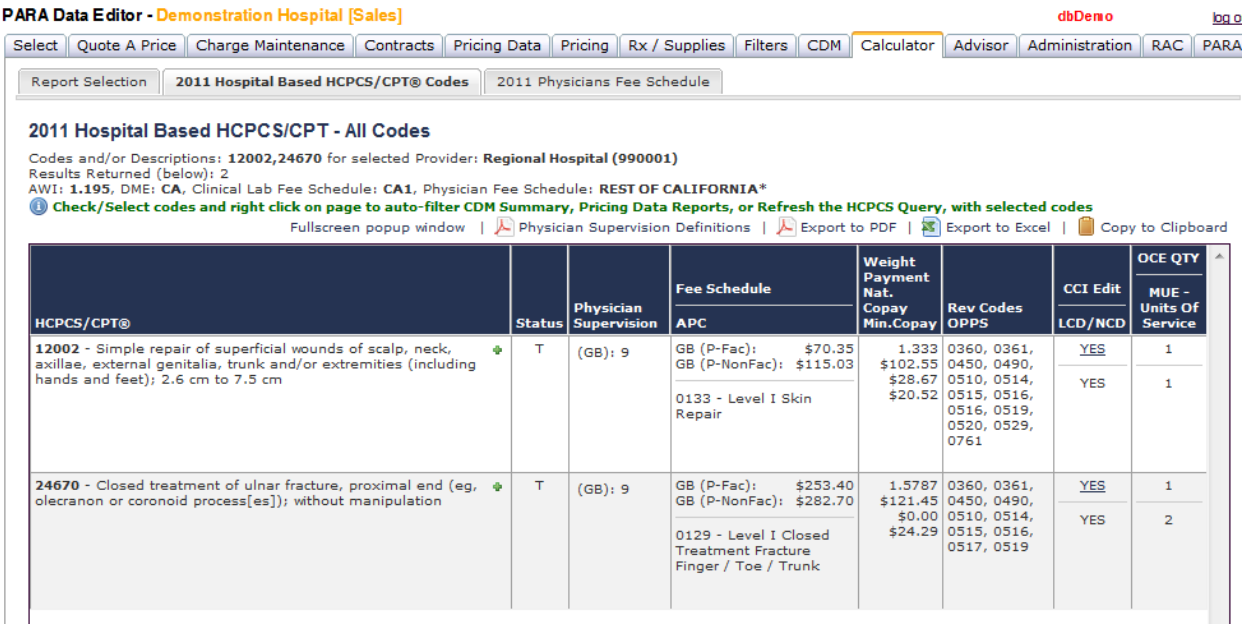
96360 - Intravenous infusion, hydration; initial, 31 minutes to 1 hour
96361 - Intravenous infusion, hydration; each additional hour (List separately in addition to code for primary procedure), the additional time has to be greater than 30 minutes
96365 - Intravenous infusion, for therapy, prophylaxis, or diagnosis (specify substance or drug); initial, up to 1 hour, 16-60 minutes (less than 16 min = IVP)
96366 - Intravenous infusion, for therapy, prophylaxis, or diagnosis (specify substance or drug); each additional hour (List separately in addition to code for primary procedure)

Hospital technical component of Physician procedures:

Physicians assign the E&M level based on the "complexity of the medical decision process" and the Hospital E&M is based on Patient resource consumption, therefore it will occur that the Physician and Hospital E&M level assignment may differ.

Because the Physician performs procedures in the Hospital ED setting, the Physician is required to bill with a "site of service" indicator on the 1500 form as "hospital emergency department", this "site of service" reduces the reimbursement to the Physician and allows the Hospital to bill a technical component for all Physician performed procedures.

The example pasted below shows the difference between facility (hospital based) and non-facility reimbursement.



PARA Data Editor - Demonstration Hospital [Sales] dbDemo log o

Select | Quote A Price | Charge Maintenance | Contracts | Pricing Data | Pricing | Rx / Supplies | Filters | CDM | Calculator | Advisor | Administration | RAC | PARA

Report Selection | 2011 Hospital Based HCPCS/CPT® Codes | 2011 Physicians Fee Schedule

2011 Hospital Based HCPCS/CPT - All Codes

Codes and/or Descriptions: **12002,24670** for selected Provider: **Regional Hospital (990001)**
Results Returned (below): 2
AWI: **1.195**, DME: **CA**, Clinical Lab Fee Schedule: **CA1**, Physician Fee Schedule: **REST OF CALIFORNIA***
Check/Select codes and right click on page to auto-filter CDM Summary, Pricing Data Reports, or Refresh the HCPCS Query, with selected codes
Fullscreen popup window | Physician Supervision Definitions | Export to PDF | Export to Excel | Copy to Clipboard

HCPCS/CPT®	Status	Physician Supervision	Fee Schedule / APC	Weight / Payment / Nat. Copay / Min.Copay	Rev Codes / OPPS	CCI Edit / LCD/NCD	OCE QTY / MUE - Units Of Service
12002 - Simple repair of superficial wounds of scalp, neck, axillae, external genitalia, trunk and/or extremities (including hands and feet); 2.6 cm to 7.5 cm	T	(GB): 9	GB (P-Fac): $70.35 GB (P-NonFac): $115.03 0133 - Level I Skin Repair	1.333 $102.55 $28.67 $20.52	0360, 0361, 0450, 0490, 0510, 0514, 0515, 0516, 0516, 0519, 0520, 0529, 0761	YES YES	1 1
24670 - Closed treatment of ulnar fracture, proximal end (eg, olecranon or coronoid process[es]); without manipulation	T	(GB): 9	GB (P-Fac): $253.40 GB (P-NonFac): $282.70 0129 - Level I Closed Treatment Fracture Finger / Toe / Trunk	1.5787 $121.45 $0.00 $24.29	0360, 0361, 0450, 0490, 0510, 0514, 0515, 0516, 0517, 0519	YES YES	1 2

Place of service code link, pasted below.

https://apps.para-hcfs.com/PDE/Calculator/v2/CMS%20Place%20of%20Service%202011.pdf

POS Code and Name (effective date) Description	Payment Rate Facility=F Nonfacility=NF
01 Pharmacy (October 1, 2005) A facility or location where drugs and other medically related items and services are sold, dispensed, or otherwise provided directly to patients.	NF

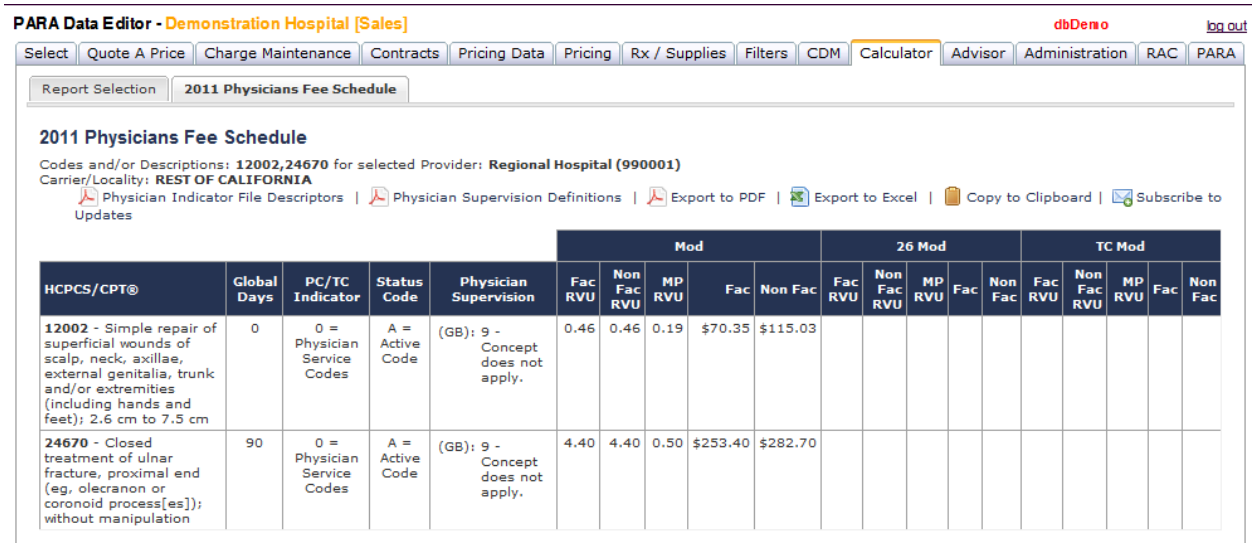
Hospital technical component of Physician procedures:

ED Physicians must perform the follow-up care associated with surgical procedures subject to the global follow-up period.

If a Patient is to be "directed" to a Physician other than the Physician who performed the initial service, the charge must have a modifier "54" "Surgical Care Only".

The Physician who then performs the follow-up care must bill with a modifier "55" "Postoperative Care Only", both of the modifiers result in reduced reimbursement to the Physician.

The example pasted below, provides a comparison of the global day follow-up period.



PARA Data Editor - Demonstration Hospital [Sales] dbDemo log out

Select | Quote A Price | Charge Maintenance | Contracts | Pricing Data | Pricing | Rx / Supplies | Filters | CDM | Calculator | Advisor | Administration | RAC | PARA

Report Selection | 2011 Physicians Fee Schedule

2011 Physicians Fee Schedule

Codes and/or Descriptions: **12002,24670** for selected Provider: **Regional Hospital (990001)**
Carrier/Locality: **REST OF CALIFORNIA**

Physician Indicator File Descriptors | Physician Supervision Definitions | Export to PDF | Export to Excel | Copy to Clipboard | Subscribe to Updates

					Mod					26 Mod					TC Mod				
HCPCS/CPT®	Global Days	PC/TC Indicator	Status Code	Physician Supervision	Fac RVU	Non Fac RVU	MP RVU	Fac	Non Fac	Fac RVU	Non Fac RVU	MP RVU	Fac	Non Fac	Fac RVU	Non Fac RVU	MP RVU	Fac	Non Fac
12002 - Simple repair of superficial wounds of scalp, neck, axillae, external genitalia, trunk and/or extremities (including hands and feet); 2.6 cm to 7.5 cm	0	0 = Physician Service Codes	A = Active Code	(GB): 9 - Concept does not apply.	0.46	0.46	0.19	$70.35	$115.03										
24670 - Closed treatment of ulnar fracture, proximal end (eg, olecranon or coronoid process[es]); without manipulation	90	0 = Physician Service Codes	A = Active Code	(GB): 9 - Concept does not apply.	4.40	4.40	0.50	$253.40	$282.70										

All Physician procedures should be checked on the hospital charge form to generate the correct reimbursement for the hospital.

A physician cannot charge for a procedure which was not personally performed by the physician (ie IV infusions, injections, and hydrations).

If the Physician ED interventions are not specifically indentified and coded on the hospital charge sheet, some hospitals will use a system to classify the intervention into one of three levels based on the direct time the ED Nurse spends with the Patient assisting the Physician:

1. Simple – less than 15 minutes
2. Intermediate – 15 to 30 minutes
3. Extensive – greater than 30 minutes

Hospital technical component of Physician procedures:

The ED procedure documentation will then be reviewed by HIM and the correct HCPCS code will be applied to the account to create the appropriate reimbursement.

Medical supplies:

There are four types of supplies used in the ED, some of which should not be charged to the Patient. The supplies and their billing status is as follows:

1. **Routine items** – Low cost, bulk stock items, (ie Band-Aids, syringes, wipes) are not to be charged.
2. **Sterile** – higher cost items, are to be charged, they are itemized on the charge form; multiple units are allowed.
3. **DME exempt** – These are DME items which can be billed to the Medicare program, they include orthotics (ie splints, braces, collars and belts).
4. **DME non-exempt** – Non-billable DME items (ie crutches, canes and walkers) are not to be billed to the Medicare program on a bill type UB04.

Billing For Supplies

Hospitals need to be cautious when billing for supplies, as Medicare considers some supplies routine and not separately billable; some supply items are covered, billable and payable; and others are covered and billable, but are packaged and not separately paid.

To determine when to separately bill for supplies, Medicare states the following criteria should be met: *(Medicare Provider Reimbursement Manual, Section 2203.2)*

1. Directly identifiable to a specific patient
2. Furnished at the direction of a physician because of specific medical needs (this must be documented in the patient's medical record
3. Either not reusable or representing a cost for each preparation

Adminastar Federal, a Fiscal Intermediary, also created a checklist for providers to use when determining if a supply is billable or not. Adminastar Federal used the Medicare Reimbursement Manual, Section 2203.2 as a guide in creating this checklist:

1. Is the item medically necessary and furnished at the discretion of a physician? (not a personal convenience item such as slippers, powder, lotion, etc.)
2. Is the item used specifically for or on the patient? (not gowns, gloves, masks, used by staff or oxygen available but not specifically used by the patient)
3. Is the item not ordinarily used for or on most patients or was the volume or quantity used for on patient significantly greater than normally used for or on most patients in the billed setting? (not blood pressure cuffs, thermometers, patient gowns, soap)
4. Is the item not basically stock (bulk) supply in the billed setting and the amount or volume used is typically measured or traceable to the individual patient for billing purposes? (not pads, drapes, cotton balls, urinals, bedpans, wipes, irrigation solutions, ice bags, IV tubing, pillows, towels, bed linen, diapers, soap, tourniquet, gauze, prep kits, oxygen masks, and oxygen supplies, syringes)

Drugs sold to Patients:

All drugs consumed by the Patient are to be charged, multiple units are allowed.

PO drugs administered at the same time are to be "counted" as a single event for the purpose of determining the E&M level. Each "event will result in "points" or a similar resource assignment.

PO, topical and some injections are to be billed as non-covered to Medicare under the self admin drug benefit.

CMS J Codes Defined as Self Administered Drugs

We have had a number of Clients continue to question the required billing process for J coded drugs which are defined by their FI/MAC as a Self Administered Drug (SAD). This paper recaps the definition of a SAD and the various options hospitals have implemented to address the issue.

To recap the regulation for Self Admin Drugs:

1. **A SAD is any drug which is administered by a Patient to themselves in the universal usage of the drug, not just in the hospital**
2. **There are J code SADs, they are defined by the MAC or FI. To determine your J code SAD, utilize the filter in the PDE.**
3. **SADs are to be billed to the Patient**
4. **SADs are billable by the Patient to Part D**
5. **SADs are billed using revenue code 0637 or 0259 MAC/FI defined**
6. **Several MACs/FIs require the assignment of A9270 HCPCS code to the line**
7. **If a drug is "integral" to a procedure it is not a SAD.**

The only Guidance CMS has provided for several of the options in billing SADs is cited below from the 2003 OPPS Final Rule.