



STATE OF HAWAII  
DEPARTMENT OF HUMAN SERVICES  
P. O. Box 339  
Honolulu, Hawaii 96809-0339

March 27, 2008

MEMORANDUM

TO: Honorable Maile S.L. Shimabukuro, Chair  
House committee on Human Services & Housing

Honorable Josh Green, MD., Chair  
House Committee on Health

FROM: Lillian B. Koller, Director

SUBJECT: H.C.R. 196/H.R. 165 – REQUESTING THE STATE AUDITOR TO  
COMMISSION AN INDEPENDENT MEDICAL REVIEW OF THE  
MEDICAL APPROPRIATENESS OF MEDICAID CLIENTS WHO  
ARE NEONATAL OR PEDIATRIC INTENSIVE CARE PATIENTS  
BETWEEN THE YEARS OF 2007 AND 2000.

Hearing: Thursday, March 27, 2008, 10:45 a.m.  
Conference Room 329, State Capitol

PURPOSE: The purpose of these resolutions is to request the state auditor to commission an independent medical review of the appropriateness of level of care by all Medicaid patients who are neonatal or pediatric intensive care patients between the years of 2007 and 2000.

DEPARTMENT'S POSITION: The Department of Human Services (DHS) supports the intent of this resolution. Currently, the Med-QUEST Division conducts periodic medical reviews of Medicaid QUEST and Fee-For-Service members which include assessing level of care appropriateness.

Thank you for this opportunity to testify on this resolution.

27 March 2008

To: Honorable Chair Dr. Green of Health Committee  
and esteemed members of the Health Committee

Honorable Chair Maile Shimabukuro of Human Services Committee  
And esteemed members of the Human Services Committee

From: Debra H. Wright APRN, MBA [please see my resume; emailed to each member]

Topic: Significant mis-billing/ overbilling for Medicaid patients by Kapiolani Hospital for selected, very vulnerable young citizens: those in Kapiolani intensive care unit [ICU]

**Introduction:**

Honorable Chair of the Health Committee, Dr. Green and esteemed members of the Health Committee; and Honorable Chair of the Human Services Committee, I am grateful for the opportunity to testify before you in person today. I trust that I will be able to present facts, evidence and shine a light about significant overbilling for selected Medicaid recipients, who are young patients in the Kapiolani Pediatric Intensive Care Unit [ICU].

**Overview of this issue related to mis-billing for Medicaid funds :**

Today I will share with you facts about an actual pediatric case of more than \$700,000 overbilling by Kapiolani hospital found in 1998 when I was working as a manager at HMSA in the Care Management unit. I will also present multiple recent facts and circumstances that indicate significant current over billing, for selected young Medicaid patients kept inappropriately in the Pediatric ICU at Kapiolani Medical Center.

Finally I will urge the members of this committee to support a Medical Chart audit [NOT CLAIMS audit] of selected Medicaid pediatric ICU patients using scientifically valid and reliable level of care criteria called Milliman [Please note: In 1998 "InterQual" - Severity of illness and Intensity of Service criteria was used to scientifically verify level of care for the actual individual HMSA pediatric ICU case found to be over billed by \$700,000+. I will leave a sample of the Pediatric InterQual level of care criteria that determines appropriate level of care.

**Key background information and facts:**

1) It is important for all Health committee members and Human Services members to understand the concept of "level of care" as it relates to hospital costs and billing to understand why I am testifying today.

There are several "levels of care" for patients in a hospital. The highest and most expensive level of care is: the Intensive Care Unit [ICU], next comes telemetry, followed by acute care, and finally skilled nursing level of care. Often, if a patient still needs some care after leaving the hospital they will be referred to "home care" [This is medical care performed by health professionals in the patients home].

A rough estimate of the cost of the highest level of hospital care, ICU, per day is between \$5,000 to \$10,000 [depending on individual patient care procedures needed], whereas the lowest level of hospital care: Skilled Nursing costs approximately \$750 to \$1,000/ day. [again depending on the individual patient care procedures needed]. **Home Care costs, per day, are lower than Skilled Nursing level of care.**

As an educated clinical guess, I would say, approximately 90% of the time, if a patient is first admitted to the ICU, as they get better [i.e. their condition becomes more medically stable], they will be transferred through the levels of care, in the order I have outlined: ICU to Telemetry to acute care to skilled nursing care, and finally discharged from the hospital to a "home care" program. Occasionally, as the patient gets better, one level of care could be skipped. It would be extremely unusual however for an adult or pediatric patient to go directly from the intensive care unit to "home care".

2) I worked as a manager at HMSA in the Care Management unit in 1998. I had a staff of three Registered Nurses [RNs] and five social workers. One key area of our units work for HMSA, was with "high cost" -or- "complex care" patients. In early 1998 one of my RN staff [Mien Woo RN [221-6857] worked closely with Kapiolani hospital on selected "complex pediatric cases". One of these cases was *Steven S.* He was an HMSA pediatric patient who had suffered a significant birth trauma resulting in his needing intermittent ventilator support [i.e. a breathing machine intermittently]. *Steven S.* had lived in the Kapiolani pediatric ICU for several years. This was a "very high cost" case for HMSA. However, our nurse did **not** assess *Steven S.* to be a complex care pediatric case. To validate this assessment, HMSA had both trained nurses and physicians **apply the "level of care" audit criteria known as "InterQual" to the medial chart of Steven S.** [Contact Dr. Joseph Humphrey, former HMSA medical director, through the physicians exchange: 524-2575]. The results of the InterQual medical chart audit indicated that *Steven S.* did not even meet the acute care "level of care criteria". Yet, Kapiolani Hospital had been billing HMSA at the ICU level of care for years. HMSA medical directors became involved in speaking to the physicians in the pediatric ICU at Kapiolani and Kapiolani Administrators. The result was: a) **HMSA recouped over \$700,000 of overbilling for *Steven S.*** b) Soon after this determination to recoup monies, the HMSA nurses were no longer permitted on the grounds of Kapiolani hospital.

3) Other facts related to *Steven S.*: In 1999 *Steven S.* became a Medicaid patient and was still an in-patient at Kapiolani hospital. In 1999 Kapiolani hospital billed \$1 million dollars for *Steven S.*, but Medicaid paid only \$394,000. In the year 2000 Kapiolani billed Medicaid \$897,000 for *Steven S.*, but Medicaid paid only \$45,000. Clearly, health professionals representing Medicaid and following the *Steven S.* case came up with the same level of care assessment made by the "InterQual" level of care criteria used by the medical doctors and nurses that worked for HMSA.

4) In 2004, the last time I heard anything about the health of *Steven S.* I was told by a nurse colleague that "he was doing fine & except for his chronic respiratory problems, had developed in to an energetic 8 year old boy". **Morale of the story: Quality pediatric medical care, is also appropriate level of care.**

5) In 1998 "InterQual": Intensity of Service and Severity of Illness criteria was the national standard of practice clinical criteria used to audit medical charts to determine level of care. I understand from my HMSA colleagues that **Milliman clinical criteria** are now utilized to determine appropriate level of hospital care.

6) In 1998 there were approximately 30 pediatric patients in the Kapiolani Intensive Care Unit. By the end of 2004 there were more than **70** pediatric patients in the Kapiolani ICU. By late 2005 there were as many as **80** pediatric patients in the Kapiolani ICU and **most of them were on Medicaid.**

7) In August of 2005 I had the occasion to speak with the medical director for Medicaid, Dr. Lynette Honbo. She stated to me at that time that “Kapiolani doesn’t want Pediatric InterQual; they have a “homegrown” set of criteria they use to determine level of care”.

8) In late 2005, I [Debra H. Wright APRN] ran into an old nursing colleague, Judith McGuire RN,MS the director of Home Care Services at Castle Medical Center [247-2828]. Castle Home Care she said “has the largest Pediatric Home Care population in the state of Hawaii”. Ms. Judith McGuire told me that the Castle Home Care dept. “**frequently gets kids discharged right out to of the Kapiolani Intensive Care Unit**”.

9) In 2006 the government entity whose job it is to determine appropriate level of care for Medicaid patients in the State of Hawaii was: Health Services Advisory Group [HSAG] of Arizona. The director is Margaret deHesse. Her email is: [mdeHesse@hsag.com](mailto:mdeHesse@hsag.com).

Before 2006 the government entity whose job it was to determine appropriate level of care for Medicaid patients in the State of Hawaii was: Mountain Pacific Quality Health Foundation, a local company. Their director was Dee Dee Nelson: 545-2550. Ms. Nelson stated to me that Mountain Pacific only did level of care and medical appropriateness random medical chart audits for 5% of the pediatric cases at Kapiolani over \$69,000.

10) **In 2007 there were plans for Pediatric Medicaid cases to be re-imbursed via a prospective managed care payment rate. Therefore, there is no longer an economic incentive to inappropriately keep any patient at a higher level of care than is medically necessary.** Thus, if Health Services Advisory Group [HSAG] services are no longer utilized, may I humbly suggest that the services of a well known and respected Health Insurer be contracted for a focused level of care medical chart audit [NOT CLAIMS] using scientifically proven valid “level of care” audit tools such as Milliman or InterQual. It is suggested that the focus of the medical charts audit be of pediatric cases listed below in “a, b, and c” and be for the four year period before prospective payment was implemented for the Kapiolani Medicaid ICU pediatric cases.

11) The Pediatric cases that are most likely to be inappropriately kept in the Kapiolani ICU before prospective payment are:

a) Babies or pediatric cases that are deemed ICU level of care by Kapiolani’s “home grown” level of care criteria, but are then discharged directly to any Home Care program in the state of Hawaii.

b) Babies or pediatric cases who have been on a ventilator for more than six [6] months, especially if these babies receive intermittent ventilation treatments.

c) [to a lesser degree] Babies who are four [4] pounds or more and still not discharged from the Kapiolani pediatric Intensive Care Unit [ICU].

12) Will our State then build a much needed Pediatric Skilled Nursing facility for these Medicaid ventilator dependent children? From the late 1980s the Convalescent Center of Honolulu [1900 Bachelot Street] has had a pediatric unit for ventilator dependant children. They are re-imbursed at an “enhanced Skilled Nursing Level”.

### Surgery / Trauma

**Instruction:** This criteria subset covers elective or urgent / emergent surgical procedures and stable trauma patients in any acute care setting.

This criteria subset is appropriate to use when the patient is hemodynamically stable and any of the following apply:

- Post critical care monitoring
- Post weaning monitoring
- Procedures / Interventions requiring inpatient hospitalization
- Nursing interventions at least every 4 to 8 hours
- IV medications requiring hospitalization
- Designated inpatient post surgical care

The decision to admit a patient to the hospital or to the ambulatory setting continues to be the responsibility of the treating provider. If cases arise where the circumstances would pose a hazard to the patient's health and/or safety and the appropriate setting is in question, then they should go to secondary review.

SRG/TR

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## SEVERITY OF ILLNESS

(Onset within 1 wk)

RULE:  $\geq$  One SI

## CLINICAL FINDINGS

Abdominal mass (palpable)  
 Abscess requiring I&D / percutaneous drainage  
**and** parenteral anti-infectives  
 Acute abdomen<sup>(1)</sup>  
 Compartment syndrome / Limb ischemia<sup>(1)(2)</sup>  
 Elective surgery / invasive procedure,  $\geq$  one:<sup>(2)</sup>  
 • Designated inpatient setting **and**  
 performed same day as admission  
 • High risk for thromboembolism<sup>(2)</sup>  
 Facial fracture **and** inability to take PO  
 Fracture / Wound, open  
 Ocular trauma / Orbit fracture,  $\geq$  one:  
 • Foreign body (intraocular / intraorbital)  
 • Muscle entrapment  
 • Perforation / Laceration of eyeball  
 Orbital / Facial / Lid trauma, severe  
 Ovarian mass **and** increasing pain / bleeding  
 Planned admission post general anesthesia,  
 $\geq$  one:  
 • Hx of apnea  
 • Infant,  $\geq$  one:  
 ▶ Full term  $\leq$  45 wks post-conceptual age  
 ▶ Preterm  $\leq$  60 wks post-conceptual age  
 Post ambulatory surgery / procedure  
 complication unresolved after  $\geq$  24h  
 observation care  
 Pre-op admission,  $\geq$  one:  
 • Arrhythmia monitoring / stabilization  
 • Bowel prep requiring NG tube placement /  
 IV hydration  
 • Electrolyte imbalance, anticipated,  
 $\geq$  one:<sup>(3)(4)</sup>  
 ▶ Diabetic requiring IV fluids to avoid  
 hypoglycemia  
 ▶ Renal failure / Adrenal insufficiency  
 • Multiple cardiac / pulmonary anomalies<sup>(1)</sup>  
 • Neurologically / Cognitively disabled<sup>(5)</sup>  
 Retinal detachment  
 Trauma **and** hemodynamic stability,  $\geq$  one:  
 • Abuse, actual / suspected, resulting in  
 injury<sup>(6)</sup>  
 • Blunt trauma (chest / abdomen)  
 • CCS B-14<sup>(3)(8)</sup>  
 • Head / Neck injury  
 • Penis, traumatic laceration / fracture  
 • Pneumothorax,  $\geq$  one:<sup>(7, (3)(8))</sup>  
 ▶ Requiring chest tube  
 ▶ Traumatic  
 Wound dehiscence / evisceration

## IMAGING FINDINGS

Basilar skull fracture  
 Bowel distention **with** air fluid levels  
 Bowel obstruction / Non-compressible  
 appendix / loop of bowel  
 Contrast material in peritoneal cavity  
 Dislocation, major joint prosthesis  
 Ectopic pregnancy **and** increasing pain /  
 bleeding<sup>(8)</sup>  
 Fistula (eg, H-type, T-E, rectourethral)  
 Fracture / Dislocation, cervical / thoracic /  
 lumbar vertebrae  
 Fracture / Dislocation requiring open  
 reduction / reconstruction  
 Gallbladder wall thickening /  
 non-visualization / Common duct stone  
 Hemoperitoneum  
 Hernia, incarcerated  
 Hydronephrosis<sup>(9)(10)</sup>  
 Intra-abdominal mass / abscess  
 Intracerebral space occupying lesion  
 Intracerebral / Ventricular bleed  
 Intussusception  
 Meckel's scan (+) for GI bleed  
 Mediastinal shift / widening<sup>(10)(11)</sup>  
 Occlusion / Dissection, peripheral artery  
 Orbital fracture  
 Organ laceration / rupture  
 Ovarian cyst, ruptured  
 Ovarian torsion  
 Pancreatitis / Pancreatic duct disruption  
 Pelvic fracture  
 Pleural effusion / Suspected empyema  
 Pneumoperitoneum / Free air under diaphragm  
 Pneumothorax / Hemothorax, traumatic<sup>(12)(13)</sup>  
 Septic joint(s)  
 Spinal cord compression  
 Subdural / Epidural hematoma

SRG, TR

**INTENSITY OF SERVICE**

(At Least Daily)

**RULE**

One:  
 \*≥ One IS  
 \*≥ Three \*IS

(Excludes PO medications unless noted)

- Anticoagulants (IV) **and** high risk for thromboembolism ≤ 2d<sup>(13)</sup>
- Anti-infectives, ≥ one:<sup>(1)</sup>
  - \* ≥ 2 anti-infectives
  - \* Absolute neutrophil count < 500/cu.mm (500x10<sup>6</sup>/L)<sup>(10)</sup>
  - \* Appendicitis (ruptured / abscess) ≤ 7d
  - \* Cultures pending ≤ 2d<sup>(12)</sup>
  - \* T > 100.4°F (38.0°C) PR<sup>(100)</sup>
  - \* T ≤ 100.4°F (38.0°C) PR **and** transition to PO ≤ 24h<sup>(101)</sup>
- Blood products **and** Hct < 35% (0.25)<sup>(12)</sup>
- Cardiac monitoring ≤ 24h, one:
  - \* Chest trauma
  - \* Limb ischemia
- Complex wound / skin care ≥ 3x/24h **and** > 15 min / analgesia<sup>(14)</sup>
- Hyperbaric O<sub>2</sub> **and** compromised wound<sup>(13)</sup>
- IV fluids, ≥ one:
  - \* Active vomiting / Intractable diarrhea
  - \* Ileus / NPO ≤ 2d
  - \* Serum Na > 145 mEq/L (145 mmol/L)
  - \* Unresponsive to antiemetics ≤ 24h<sup>(14)</sup>
- Limb elevation **with** neurovascular assessment **and** Compartment syndrome / Limb ischemia ≥ 6x/24h, ≤ 2d<sup>(15)</sup>
- Neurologic assessment ≥ 6x/24h, ≤ 2d<sup>(16)</sup>
- Ostomy teaching ≤ 24h
- Oxygen ≥ 30% (0.30) / > 2.5 L/min NC / CPAP<sup>(17, 110, 111, 112)</sup>
- Post critical care ≤ 2d
- Post surgical care, ≥ one:<sup>(18)</sup>
  - \* Short stay review ≤ 24h<sup>(19)</sup>
  - \* Routine review ≤ 2d<sup>(20)</sup>
  - \* Major procedure review ≤ 3d<sup>(21)</sup>
  - \* Long stay review ≤ 4d<sup>(22)</sup>
- Post tracheostomy ≤ 2d
- Post trauma monitoring ≤ 24h<sup>(23)</sup>
- Pre-op admission ≤ 24h, ≥ one:
  - \* Hemodynamic / Apnea monitoring
  - \* IV hydration / Electrolyte management
  - \* NG tube placement
- Progressive activity (PT / OT), both:<sup>(24)</sup>
  - \* ≤ 24h
  - \* Home discharge expected
- Pulmonary toilet ≥ 3x/24h<sup>(25)</sup>
- Rehabilitation screening ≤ 2d<sup>(26, 27)</sup>
- Suction, chest tube / GI / wound<sup>(28, 29)</sup>
- Volume expanders **and** Hct < 30% (0.30)<sup>(31, 32)</sup>

(Excludes PO medications unless noted)

- \* Analgesics / Sedatives ≥ 3x/24h
- \* Antiarrhythmics (PO)
- \* Anticoagulants (PO/SC)
- \* Anticonvulsants (PO)
- \* Antiemetics ≥ 3x/24h
- \* Antihypertensives (PO)
- \* Anti-infectives
- \* Blood products / Volume expanders<sup>(33)</sup>
- \* Bronchodilators (PO)
- \* Complex wound / skin care ≥ 3x/24h<sup>(34)</sup>
- \* Corticosteroids (PO) ≥ 2x/24h
- \* Dialysis / Ultrafiltration
- \* Diuretics ≥ 2x/24h
- \* Insulin adjustment ≥ 3x/24h<sup>(35)</sup>
- \* IV fluid replacement based on losses ≥ 3x/24h **and** oliguria / inability to establish oral intake<sup>(36)</sup>
- \* IV fluids / TPN / NG feedings, ≥ one:<sup>(37)</sup>
  - \* ≥ 60 mL/kg/24h (≤ 10 kg)
  - \* ≥ 40 mL/kg/24h (> 10 - 25 kg)
  - \* ≥ 30 mL/kg/24h (> 25 - 60 kg)
  - \* ≥ 75 mL/h (> 60 kg)
- \* Neurologic assessment ≥ 3x/24h<sup>(15)</sup>
- \* Oxygen ≥ 25% (0.25) / > 1 L/min NC **and** oximetry / blood gas analysis<sup>(17, 112)</sup>
- \* Respiratory drugs at least 3x/24h<sup>(38)</sup>
- \* Respiratory interventions 1-2x/24h<sup>(39)</sup>
- \* Surgical debridement / Wound I&D

SRG/IR

## DISCHARGE SCREENS

(At Least Last 24h)

RULE: Both: Clinical and Level of Care

## Clinical

≥ One:

- Abscess resolving
- Abuse / Neglect R/O'd / Alternate living arranged
- Chest tube removed<sup>(34)</sup>
- Fracture / Dislocation aligned / stabilized
- GI suction D/C'd and PO fluids / diet tolerated / Nutritional route established<sup>(35)</sup>
- Intraoperative drains / tubes functioning
- Neurologically stable<sup>(36)</sup>
- Post surgery last 12h, all:
  - ▶ Fever resolving
  - ▶ No evidence of bleeding
  - ▶ Pain controlled / manageable<sup>(37)</sup>
  - ▶ Passing flatus / stool
  - ▶ Passing urine
  - ▶ PO fluids / Diet tolerated<sup>(38)</sup>
  - ▶ Vital signs stable for age<sup>(39)</sup>
- Surgical complications resolved, ≥ one:
  - ▶ Bleeding controlled / Hct > 25% (0.25) / return to baseline<sup>(42)</sup>
  - ▶ BUN / Creatinine w/in acceptable ranges / HCO<sub>3</sub> > 18 mEq/L (18 mmol/L)
  - ▶ Fever resolving
  - ▶ HCO<sub>3</sub> > 18 mEq/L (18 mmol/L)
  - ▶ Infection (signs, symptoms, labs) improving
  - ▶ K 3.3-5.0 mEq/L (3.3-5.0 mmol/L)
  - ▶ Na 135-145 mEq/L (135-145 mmol/L)
  - ▶ Neurologically stable<sup>(36)</sup>
  - ▶ O<sub>2</sub> sat > 98% (0.98) / return to baseline
  - ▶ Vital signs stable for age<sup>(39)</sup>
- Trauma, all:
  - ▶ Internal injuries R/O'd / stabilized
  - ▶ Neurologically stable<sup>(36)</sup>
  - ▶ Pain / Spasm controlled / manageable<sup>(37)</sup>
  - ▶ Physical impairment controlled / improving / Rehabilitation care planned
  - ▶ PO fluids tolerated / Nutritional route established<sup>(35)</sup>
  - ▶ Vital signs stable for age<sup>(39)</sup>
- Wound dehiscence healing / manageable

## Level of Care

Care needs could be met at alternate level (refer to ALOC guidelines), ≥ one:<sup>(40)</sup>

- Home
- Home Care / Hospice
- Subacute / Skilled Nursing Facility<sup>(40)</sup>
- Rehabilitation, acute
- Other ALOC

SRG:TH



## NOTES

**1:** Acute abdomen is the acute onset of new, severe abdominal pain, many times of unknown etiology. It may be characterized by rebound tenderness, abdominal rigidity, or guarding and can be accompanied by fever and increased WBC. When a physician uses the phrase "acute abdomen" to describe the patient, it is adequate for admission to the acute level of care since surgical exploration or treatment may be necessary. Acute abdominal pain alone is not adequate to meet this criteria point. The presence of an acute abdomen is not always indicative of a surgical emergency; certain medical conditions (e.g., PID) may also present as an acute abdomen.

**2: Instruction:** In the absence of an institutional list, McKesson provides guidelines for surgery and procedures typically performed in the inpatient setting. This list must be reviewed and approved by the medical staff peer review group before it is implemented.

The decision to admit a patient to the hospital or to the ambulatory setting continues to be the responsibility of the treating provider. If cases arise where the circumstances would pose a hazard to the patient's health and/or safety and the appropriate setting is in question, then they should go to medical review.

(These guidelines are found in the Appendix of the book or Care Enhance Review Manager Help).

**3:** This category includes patients who have had an acute thromboembolism associated with catheter insertion, or those with a history of recurrent thromboembolism. Patients with congenital or acquired heart disease, prosthetic heart valves, or hereditary disorders of clotting (e.g., Protein C, Protein S, or antithrombin III deficiencies) who are currently receiving anticoagulants would most likely need to be admitted prior to surgery. It is recommended that high-risk patients have uninterrupted anticoagulation with a brief discontinuation prior to surgery.

**4:** Patients with a history of congenital heart disease, pulmonary hypertension, congenital diaphragmatic hernia, BPD, cystic fibrosis, lung emphysema, or adenomatoid malformation are often admitted to the acute level prior to surgery for medical management, such as IV placement, pulmonary toilet, and hemodynamic monitoring for volume shifts and shunting.

**5:** Examples of patients who would qualify as neurologically or cognitively disabled include those with multiple disabilities, severe mental retardation, or severe Cerebral Palsy.

**6:** Abuse should be suspected and appropriate interventions initiated when the injury, clinical history, or the diagnostic findings suggests the possibility of child abuse or non-accidental injury. Child abuse can manifest itself as neglect, or physical, sexual, or emotional abuse. Neglect is the failure to provide adequate care and protection. It may involve failure to feed the child adequately, provide medical care, or to protect the child from danger. Physical abuse is the infliction of injury by a caretaker. It may take the form of beating, kicking, biting, or other methods. Injuries associated with physical abuse are broken bones, internal hemorrhages, bruises, burns, and poisoning. Sexual abuse refers to sexual behavior between a child and an adult, or between two children when one of them uses coercion. Definitions of abuse vary from state to state (Bernat et al., J Am Acad Child Adolesc Psychiatry 1997; 36 (supp 10): 48s.).

**7: Instruction:** At the **Observation** level, patients are generally admitted with a small, spontaneous pneumothorax where a chest tube is not required.

(Note continued on next page)

SRG/TR

## NOTES

At the **Acute** level, patients with a pneumothorax are generally admitted when:

- It is traumatic in origin
- It requires chest tube insertion
- The patient experiences symptoms which meet the Respiratory / Chest SI criteria

8: An admission for ectopic pregnancy should occur when there is evidence of a ruptured tube; severe abdominal pain with at least 7 weeks of amenorrhea; adnexal mass with prior ectopic pregnancy, HCG  $\geq$  1500 IU/mL and no intrauterine gestational sac on transvaginal ultrasound.

9: **Care Management:** Many patients are candidates for completing their anti-infective treatment regimen in an alternate level of care (e.g., Home Care, Subacute). Patients may be safely transferred or discharged to an alternate setting when there is evidence of hemodynamic stability, the organism has been identified, the appropriate anti-infective regimen is tolerated with or without premedication, and an appropriate access device has been inserted. In choosing an appropriate intravenous access device, the anti-infective being administered, the venous access of the patient, the anticipated length of therapy and the setting where the patient will complete their course of therapy is considered. Intravenous catheters include central catheters (tunneled, non-tunneled, implanted ports, PICCs) and peripheral catheters (midclavicular, midlines, extended dwell or short-term peripheral lines).

**Discharge Planning:**

When determining the most appropriate care setting, the case manager will assess the complexity of the treatment regimen, active co-morbidities, the cognitive and functional capacity of the patient and/or caregiver, the capacity for the patient or caregiver to learn the required administration procedures, the availability of services (home care agency with infusion expertise, pharmacy and laboratory monitoring) and the home environment.

For patients being discharged home with intravenous anti-infectives, the discharge plan must include instruction for the patient and/or caregiver on self-management of the infusion therapy. Teaching self-management of infusion therapy includes instruction in some or all of the following:

- Aseptic technique
- Storage and handling of medications, equipment, and supplies
- Initiating and discontinuing the infusion
- Access device assessment, flushing, dressing, and cap change
- Disposal of medications and supplies
- Safety precautions
- Re-ordering medications, supplies, and equipment
- Identification of complications or untoward effect the of the access device and medication
- When to call the physician or nurse
- Follow-up appointments with the health care provider

10: The absolute neutrophil count (ANC) can be calculated using the following formula:

$$\text{ANC} = \text{WBC} \times (\% \text{bands} + \% \text{mature neutrophils}) \times 0.01$$

SRG:TR

## NOTES

11: Culture results can take longer than 2 days, but there should be a preliminary report by the laboratory showing growth. In certain circumstances (e.g., neonates, transplant patients) an anti-infective is often initiated based on presumptive results.

12: If the only value available is a hemoglobin, the hematocrit can be approximated by multiplying the hemoglobin by 3.

13: The discovery of beneficial cellular and biochemical effects has strengthened the rationale for administering hyperbaric oxygen as an adjunct therapy for the prevention and treatment of osteoradionecrosis, clostridial myonecrosis, compromised skin grafts and flaps, refractory osteomyelitis, and necrotizing soft tissue infections (Bryant et al. in *Acute & Chronic Wounds: Nursing Management*, 2000, p431-453). Problem wound healing frequently occurs in patients who are systemically or locally compromised. Tissue hypoxia is the most common denominator. For skin grafts to be successful, the recipient graft site must be of the health and quality to accept the graft. Availability of tissue oxygen is critical to success of skin grafting and subsequent graft survival. Hyperbaric oxygen has been shown to be useful in improving tissue oxygenation and is applied in situations where there is evidence of, or a high probability for, compromised graft healing.

14: Unresponsive to antiemetics refers to the patient's inability to take anything PO. It is a continued experience of nausea and/or vomiting despite having been medicated repeatedly with antiemetics.

15: A neurovascular assessment is done to identify any signs of neurovascular compromise and should include the following:

- Evaluation of the quality of the peripheral pulses and capillary refill rate
- Pain assessment
- Assessment for warmth in the extremity
- Gross motor and sensory function of fingertips and toes

Presence of any of the following signs suggests neurovascular compromise: painful passive motion, pallor of the extremity, paresthesias, paralysis, pulselessness or diminished pulses, or poikilothermia (decreased temperature).

16: The neurologic assessment of the pediatric patient establishes a baseline so that subtle changes can be monitored. Neurologic disorders vary widely and can greatly affect functioning. A comprehensive neurological examination is a serial assessment of all of the following: intracranial pressure (if elevated), level of consciousness, muscle tone and posturing, seizure activity, paresis / paralysis, irritability / hyperexcitability, reflexes, pupillary reaction (evaluation of size, equality, and reaction to light). In older children, assessment of known focal neurologic deficits, such as aphasia, ataxia, or dysarthria, should also be evaluated (Gomella, ed., *Neonatology: Management, Procedures, On-Call Problems, Diseases, Drugs*, 1999; O'Hanlon-Nichols, *Am J Nurs* 1999; 99(6): 44-50).

17: **Instruction:** There are four levels of oxygen therapy used as criteria:

- $\geq 25\%$  (.25 FiO<sub>2</sub>) - used in IS Observation, IS Eye, Ear, Nose, and Throat (for Epistaxis), IS Skin / Connective Tissue (for Burn therapy), and \*IS Acute care
- $\geq 30\%$  (.30 FiO<sub>2</sub>) - used in IS Acute Care and \*IS Intermediate care
- $\geq 35\%$  (.35 FiO<sub>2</sub>) - used in IS Intermediate Care and \*IS Pediatric Intensive Care / Surgical-Trauma Intensive Care

*(Note continued on next page)*

SRG.TR

## NOTES

- $\geq 40\%$  (.40 FiO<sub>2</sub>) - used in IS Critical Care.

To meet the Intensity of Service (IS) for each of these levels, see the glossary note [Oxygen Delivery (Pediatric)] delineating which devices are most appropriate to deliver the specified amount of oxygen.

**18:** Post surgical care begins when the patient leaves the recovery room. The days indicated in this criteria do not refer to a length of stay, but rather to the recommended time frame in which a review should take place after surgery. This is assigned as the next review date for the case. It would be acceptable to review the case any time before the completion of the assigned days. However, once the time frame has been established, other IS/IS are required to validate continued stay.

**Instruction:** When a patient undergoing surgery has a current or past history of chronic pain and is on a drug regimen to manage it, there are special considerations that must be a part of their postoperative pain management care. These patients do not only experience normal postoperative pain but also the day-to-day chronic pain for which they have sought treatment. These patients may require significantly higher dosages and/or combinations of pain medications to manage their pain and promote a quick recovery. If these pain needs are ignored and routine postoperative pain management regimens are followed, the patient's stay may be prolonged.

**19:** Examples of procedures considered short stay (review to occur no longer than 1 day post-op) include, but are not limited to, appendectomy (non-perforated appendix), ACL repair, laparoscopic cholecystectomy, pyloroplasty, T & A for obstructive disease, cleft repair, ORIF ankle / foot / humerus / ulna / radius, parotidectomy, thyroidectomy, lymphangioma excision, repair of complex wounds, complex hypospadias repair, diagnostic laparoscopy, hernia repair on a premature infant < 60 postconceptual weeks, or resection of posterior urethral valves. This list is not intended to be all inclusive and can be modified.

**20:** Examples of procedures considered for routine review (review to occur no longer than 2 days post-op) include, but are not limited to, gastrostomy tube creation, exploratory laparotomy, enterolysis, Ladd's procedure, intussusception reduction, closed reduction or ORIF of tibia / fibula, perineal procedure for imperforate anus. This list is not intended to be all inclusive and can be modified.

**21:** Examples of procedures considered major (review to occur no longer than 3 days post-op) include, but are not limited to, common bile duct exploration, Meckel's resection, ureteral implant, reconstruction for intersex, ruptured appendectomy, open cholecystectomy, nephrectomy, or splenectomy. This list is not intended to be all inclusive and can be modified.

**22:** Examples of procedures considered long stay (review to occur no longer than 4 days post-op) include, but are not limited to, thoracotomy, major burns, craniotomy, liver resection, portoenterostomy, endorectal pull through, repair of intestinal atresia, repair congenital heart disease, repair diaphragmatic hernia, antireflux procedure (fundoplication, Nissen), pancreatic surgery, large bowel (colon) resection, small bowel resection, creation of colostomy, extremity amputation, closed reduction femur fracture (spica cast), scoliosis corrective surgery, repair omphalocele and gastroschisis, organ transplant, cystectomy, major tumor resection (Wilm's, sarcoma, neuroblastoma), bladder augmentation, or extrophy repair. This list is not intended to be all inclusive and can be modified.

## NOTES

**23:** Post trauma monitoring refers to those patients who are not at immediate risk, and whose surgery will be performed the following day.

**24: Instruction:** Progressive activity refers to those activities which are PT / OT in nature but can be (and generally are) performed by nursing. These activities include, but are not limited to, ROM, transfers, out of bed, ambulation, and crutch walking. This is generally required for debilitated patients who require instruction and who can practice in anticipation of safe discharge to home.

**25:** Aggressive pulmonary toilet includes frequent turning, postural drainage, ambulation, nasotracheal suctioning, coughing, deep breathing, incentive spirometry, and chest physiotherapy. These techniques help to mobilize secretions and prevent atelectasis.

**26:** This two-day period allows for rehabilitation or medical assessment and intervention to define the degree of impairment related to stroke, head trauma, CHF, debilitation, trauma, acute myocardial infarction, or post-surgical and to facilitate transfer to the next appropriate rehabilitation or therapy level.

**27:** The current and preadmission level of function should be assessed to determine any new physical / cognitive functional limitations requiring intervention. Based on findings, evaluations by Physical Therapy, Occupational Therapy, and/or Speech-Language Pathology should be scheduled, once the patient is stabilized, to further assess the change in function and post acute care needs.

**28:** These forms of suction are referring to continuous closed wall suction.

**29: Care Management:** Chest tubes are inserted to evacuate air or fluid from the pleural space.

- Chest tubes may be connected to a water-seal drainage system or a Heimlich valve
- If lung re-expansion does not occur with use of a Heimlich valve, the chest tube is attached to a water-seal drainage system with or without suction
- If lung re-expansion does not occur with a water-seal system, suction is added
- When there is no evidence of air leak, the lung is fully expanded, and there is minimal drainage, the chest tube is clamped
- Serial chest x-rays are performed to ensure that there is no re-accumulation of air or fluid prior to removal of the chest tube
- A final chest x-ray is performed after the chest tube is removed
- Patients who require a chest tube for extended periods of time may be managed at an alternate level of care

### Discharge Planning:

Patient and caregiver education to include: the reason the chest tube is required, where the chest tube is located, how long the chest tube is likely to be needed, care of the chest tube and dressing, symptoms to be reported to the physician, when to seek emergency care, and troubleshooting for the particular device being used (Carroll, Home Healthc Nurse 2002; 20(7): 434-441).

Follow-up care should include an appointment with the physician, obtaining the equipment needed for care of the chest tube and device, and home care services if ordered.

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**30:** This criteria point applies to insulin adjustments made based on plasma glucose results whether a sliding scale is used or the physician determines the dose.

**31:** IV fluid rates have been set at  $\geq 50\%$  (0.50) of the maintenance fluid requirement allowing for advancement of enteral feedings as IV fluids are weaned. Maintenance fluid requirements (mL/kg/d) are calculated on current body weight (kg): 100 mL/kg/d for 1st 10 kg, 50 mL/kg/d for 2nd 10 kg, and 20 mL/kg/d for each additional kg in weight (Gunn and Nechyba, eds., The Harriet Lane Handbook, 2002).

If the patient's weight is in lb(s) and/or the fluid rate is in mL/h, it will be necessary to convert to the appropriate unit of measurement in order to determine if the criteria point can be met. To convert the patient's weight from lb to kg, divide by 2.2 lb/kg to arrive at the weight in kg. Multiply the infusion rate (mL/h) by 24 to calculate the volume of fluid infused over 24h. Divide this total volume by the weight in kg to arrive at mL/kg/24h. Now refer to the criteria subset to determine if the criterion is met. (1cc = 1mL)

For example, if a child weighs 37 lb and is ordered an IV at 30mL/h.

$$37\text{lb divided by } 2.2\text{lb/kg} = 16.8\text{kg}$$

$$30\text{mL/hr multiplied by } 24 = 720 \text{ mL/24h}$$

$$720\text{mL/24h divided by } 16.8\text{kg} = 42.9 \text{ mL/kg/24h}$$

IV fluids  $\geq 40$  mL/kg/24h ( $>10$ -25 kg) would be applied as the patient weighs 16.8 kg. The patient meets criteria since the infusion rate of 42.9 is greater than 40.

**32:** Respiratory drugs are any drugs delivered by any parenteral route, nebulizer or aerosol, for the treatment of a respiratory condition. Some examples include, bronchodilators, steroids, beta-agonists, and anticholinergic agents.

**33:** Respiratory interventions include blood gas / oximetry / apnea monitoring, ventilator setting changes, chest physiotherapy, suctioning, and nebulizer / MDI treatments.

**34: Instruction:** When a patient is being discharged home, the chest tube is removed and a chest x-ray post removal should show no / minimal pneumothorax. However, a patient being transferred to an alternate level of care, such as subacute care, could still have a chest tube to water seal. There are certain chronic conditions that lead to recurrent pneumothorax or pleural effusion and these patients may be sent home with a small chest tube attached to a Heimlich valve (Tierney et al., eds., Current Medical Diagnosis and Treatment, 2001, p. 344).

**35:** Oral intake should be greater than the patient's maintenance fluid requirements. Maintenance fluid requirements (mL/kg/d) can be calculated on current body weight (kg). For children  $< 20$  kg, fluid requirements should be set at 150 mL/kg/day. For children  $\geq 20$  kg, the following applies: 100 mL/kg/d for 1st 10 kg, 50 mL/kg/d for 2nd 10 kg, and 20 mL/kg/d for each additional kg in weight (Gunn and Nechyba, eds., The Harriet Lane Handbook, 2002).

**36:** Neurologic stability in the pediatric patient requires that seizures are controlled, there is absence of generalized seizures (e.g., grand mal) or improved / unchanged seizure pattern, there is no deterioration of the mental status, and there are no new neurologic deficits. Another indicator of neurologic stability in children is developmental progress and stability. For children less than 12 years,

*(Note continued on next page)*

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and especially those  $\leq 5$  years, any developmental milestones lost due to illness / hospitalization should be regained or there should be progress toward recovery. If a fixed deficit has developed, then no further deterioration should be noted.

**37: Instruction:** Pain should be controlled without the use of parenteral analgesics. However, if the pain is being controlled on a PCA pump, the patient may be discharged, depending on availability, to an alternate level of care (e.g., Home Care, Subacute, SNF).

**38: Vital sign stability** requires that the temperature, blood pressure (systolic and diastolic), heart rate, and respiratory rate must all be within the normal ranges for the pediatric patient's age or at baseline, if baseline is known.

**39: Instruction:** Alternate level of care guidelines can be found in the Appendix or in CareEnhance Review Manager Help.

**40: Subacute care** may be unavailable in many areas. If Subacute care were available, the following are examples of some of the patient populations that could be cared for at this level of care:

- Premature infants (feeders / growers, BPD)
- Full term infants with complications (intrauterine / postnatal infections, congenital anomalies)
- Asthma / Diabetes (controlling of symptoms, education of patient / family, monitoring compliance)
- Technology dependent (mechanical ventilation, oxygen support, TPN, tracheostomy care, etc.)
- Complex genetic disorders

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