

## Observation Unit Management of HF

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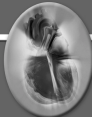
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## “Observation Services” Criteria

- **Payer**
- **Site of service**
  - hospital outpatient
- **Clinical requirements**
  - diagnosis
  - length of stay
  - diagnostic tests

**Medicare**

- Hospital emergency room
- Hospital outpatient observation unit
- Hospital outpatient HF clinic
- Hospital outpatient infusion clinic

- ICD-9 diagnosis code for CHF
  - List of acceptable codes from CMS includes 428.0-428.33
- Observe: min. 8 hrs-max. 48 hrs
- Diagnostic tests required
  - Pulse oximetry
  - Electrocardiogram
  - Chest X-ray

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## Reimbursement: Hospital Outpatient With Observation

- Patient in hospital outpatient setting infused with nesiritide *and* qualifying for observation services
- Model excludes professional fees and procedures not related to infusion/observation

| DECEMBER 31, 2003 |                                   |                                     | JANUARY 1, 2004 |                                   |                 |
|-------------------|-----------------------------------|-------------------------------------|-----------------|-----------------------------------|-----------------|
| APC               | Description                       | Allowable                           | APC             | Description                       | Allowable       |
| 120               | Infusion non-chemo                | \$56.85                             | 120             | Infusion non-chemo                | \$52.15         |
| 9114              | Nesiritide                        | \$433.20                            | 9114            | Nesiritide                        | \$421.34        |
| 0339              | Observation services, per 8 hours | \$376.47                            | 0339            | Observation services, per 8 hours | \$365.45        |
|                   |                                   | <b>Total hospital reimbursement</b> |                 |                                   | <b>\$866.52</b> |
|                   |                                   |                                     |                 |                                   | <b>\$838.94</b> |

Payment amounts for procedures are national averages; actual payments adjusted for area wage rates. Sources: Final Rules for 2003 and 2004, Corrections Rule for observation payment rate for 2004.

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### Observation Unit

- **Outpatient unit with limited LOS**
  - 24 hours maximum (well maybe)
- **Eligibility**
  - “Relatively” stable; nursing ratio 3-4:1
  - Unclear diagnosis
  - Conditions that may benefit from short, intensive therapies
    - Asthma, chest pain, HF

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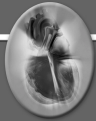
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### Observation Unit HF Entry

One from each of the following:

- **History**
  - Orthopnea, DOE, PND, SOB
  - Swelling of legs or abdomen, weight gain
- **Physical exam**
  - JVD, HJR, S<sub>3</sub>/S<sub>4</sub>, inspiratory rales, peripheral edema
- **Chest X-ray**
  - Cardiomegaly, PVC, Kerley B lines
  - Pulmonary edema, pleural effusion
- **BNP >100 pg/mL**

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Peacock WF. *CHF*. 2002;8(2):68-73.

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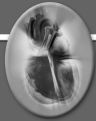
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### HF Protocol Exclusions

- **Chronic renal failure requiring dialysis**
- **Temperature >38.5°C**
- **CXR with pulmonary infiltrates**
- **Peak flow <50% of predicted, with wheezing**
- **Requires IV nitroglycerin**
- **Clinically significant arrhythmia**
- **ECG with diagnostic criteria for acute MI or ischemia**
- **Abnormal cardiac markers**

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## Observation Unit HF Protocol

### Nursing-driven standard orders

- **Diuretic & ACEI algorithms**
- **Aggressive fluid management monitoring**
  - admission weights, strict I & Os
  - fluid restriction, low Na+ diet
  - K+ and Mg++ dosing
- **AMI R/O, echocardiography**
- **Patient education** (movie, bedside teaching)
  - SW and dietary consults
- **D/C planning, HF consultation**

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Peacock WF, Albert NM. *Emerg Med Clin North Am.* 2001;19(1):209-232.

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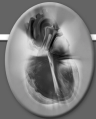
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## Outpatient Unit Discharge

- **Walk**      **Ambulatory, w/o long-suffering orthostasis**
- **Talk**      **Reports subjective improvement**
- **Urinate**    **Uo >1 L, & >30 cc/hr or 0.5 cc/kg/hr**
- **Ok VS**      **HR <100 beats/min, BP >80 mm Hg**  
**RA O<sub>2</sub> sat >90% (unless on home O<sub>2</sub>)**
- **No MI**      **CKMB <8.8, and TnT <0.1**  
**No ischemic CP or significant arrhythmia**
- **Ok lab**      **Stable electrolyte profile**

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## 90-Day Outcomes

|                 | Before | After | Δ (%) | P-value |
|-----------------|--------|-------|-------|---------|
| HF revisits (%) | 90     | 51    | 44    | <0.000  |
| HF rehosp (%)   | 77     | 50    | 36    | =0.007  |
| Death (%)       | 4      | 1     | 75    | =0.096  |

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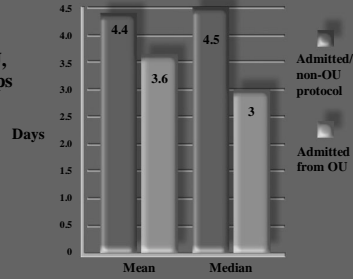


### Hospital LOS Decreases

- If admitted from OU, total mean LOS drops 23%

- p=0.08
- inclusive of OU LOS

- Median LOS down 40%



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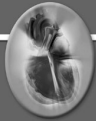
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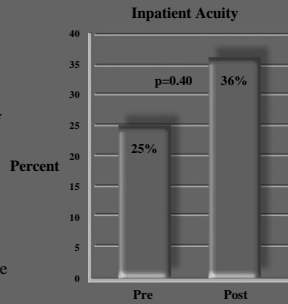
### Inpatient Acuity Increases

- Inpatient acuity increases 11%

- inferred by the rate of billable procedures

- Billable procedures

- Cardioversion, PA cath
- Transfusion, ART line
- Etc



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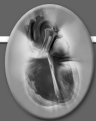
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### Total Costs Decrease

- Total costs decrease by \$37,217

- Per-case costs:

- Unchanged if discharged from ED
- OU costs increase \$81

- Savings due to admission avoidance

- Annual savings: \$89,321 (1997 dollars)

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## Observation Unit for Acute HF

- **Decreased hospitalizations**
- **Shorter LOS**
- **Fewer revisits**
- **Lower costs**

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