

Quality Outcomes & Financial Justification on CLRT Through Protocol Implementation

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Goals

- To use CLRT* in an appropriate population of ICU patients
- To develop a model/process for improving outcomes
- To demonstrate positive clinical outcomes and financially justify CLRT

Objectives

- Decrease hospital LOS
- Decrease ICU LOS
- Decrease ventilator days
- Decrease nosocomial pneumonias

How We Handled the Challenge

Step 1: Situation Analysis

- Placement on CLRT was late
- Uncertain of outcomes
- No consistent protocol
- No internal monitoring
- Lack of staff education
- Concern about our nosocomial rates

Step 2: Develop the Plan

- Establish a multidisciplinary team
- Literature review
- Evaluate patient population
- Protocol development
- Risk assessment tool development
- Approach nursing, RT & medical staff

Step 3: Implementation

- Education: nursing, RT & medical staff
- Daily pulmonary rounds
- APACHE II Scoring
- Information gathering
- Physician order for CLRT

Step 4: Measurement

- APACHE II
- Hospital LOS
- ICU LOS
- CLRT LOS
- CLRT lag
- Ventilator days
- Ventilator charges
- ICU charges
- CLRT unit cost

Step 5: Process Assessment

- Review of the practice
- Review of the data collected
- Risk assessment tool revision
- Protocol revision
- Continuation of educational efforts

Comparison Summary**

	1994	1995	Days Reduced
ALOS In ICU	21.2	14.9	6.3
Vent Days	18.2	14.3	3.9
ALOS on CLRT Unit	19.2	14.8	4.4
ALOS In Hospital	37.9	26.6	11.3

* CLRT=Continuous Lateral Rotation Therapy

** Numbers reflect those patients in the Outcomes Project



ICU/Vent/CLRT Dollars** Reduced in 1995

- ICU charges averaged \$5,145 less in 1995
- Vent charges averaged \$1,402 less in 1995
- Cost for CLRT averaged \$649 less per patient in 1995

Lag Time Comparison**

(ICU admission to placement on CLRT)

Product LAG	Average LOS
1-2 days	8.7 days
3-4 days	14.9 days
5-6 days	27.7 days
>7 days	28.6 days

** Numbers reflect those patients in the Outcomes Project

Ventilator Related Nosocomial Pneumonia (NP)

- Definition of pneumonia: CDC
- Ventilator associated NP info collected by hospital surveillance
- Same criteria used in 1994 & 1995

"There was nothing different introduced except the Outcomes Project"

Ventilator Related Nosocomial Pneumonia Reduced

- 1994 vs 1995 - There were 48 less pneumonias

Cost Average

- Cost avoidance related to each nosocomial pneumonia prevented = \$18,000¹
- Total cost avoidance \$864,000 (\$18,000 x 48 = \$864,000)

¹ Inman K.J., Preventing Nosocomial Pneumonia and Lower Respiratory Tract Infections with Continuous Lateral Rotation Therapy: An Evaluation of Cost Effectiveness in Critically Ill Trauma Victims. Critical Care Medicine. January, 1995

Conclusion

By utilization of the new protocol/process we found that we began to use CLRT more appropriately, as evidenced by improved clinical and financial outcomes.

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