PASSY-MUIR® VALVE IN THE PATIENT CARE PLAN: A MANAGER’S PERSPECTIVE

APPLICATION AND PLACEMENT OF THE PASSY-MUIR® VALVE

What Will We Talk About?

• What are the forces motivating change
• How do these forces affect the care of a person with a tracheostomy?
• How can the manager effectively respond?
• How can the manager create, implement and monitor an effective care plan?
You can count on Change

Health Care Legislative Changes
Legislative Changes

• Congress and presidential administrations over the last 20 years have slowly moved forward with Medicare value-based health care purchasing initiatives
• These initiatives were bolstered and extended with the recent passage of major health care reform legislation

Payment Reform Proposals Include

• care coordination payments
• bundled payments to physicians and/or hospitals
• pay-for-performance, and other “shared savings” proposals
• Various forms of prospective payment or capitation

From: F. J. Crosson, Change the Microenvironment, April 2009, Modern Healthcare and The Commonwealth Fund, April 2009
Commentary on The Commonwealth Fund/Modern Healthcare Opinion Leaders Survey on Priorities for the Obama Administration, F. J. Crosson, senior fellow at the Kaiser Permanente Institute for Health Policy

The Patient Protection and Affordable Care Act (PPACA, P.L. 111-148) and the Health Care and Education Reconciliation Act (P.L. 111-152). (From http://www.asha.org/Publications/leader/2010/100803/Health-Care-Refom-SLP.htm)
Legislative Changes

- Donald Berwick, President Obama's newly appointed CMS administrator, warns of "ill-considered autonomy" among health care professionals


Legislative Changes

- Clinicians will be chosen for the "bundle" who can produce results efficiently and who can perform collaboratively.

Legislative Changes

- Professionals who insist on "autonomy" and say that their services inherently "take longer" will likely not be chosen to participate.
Legislative Changes

- There are areas of strong agreement. There is compelling evidence that changing payment incentives will improve quality and reduce costs.
- Coordinating care for those with chronic illnesses has a major impact on quality of life, quality of care, and costs.

How does this apply to tracheostomized patients?

Cost Savings

$7.07/day
1. Tube Feeding
2. Antibiotics/ICU stay
3. Vent days/LOS
4. Suctioning Supplies

About $1 a day
- Passy-Muir Valve
What can the manager do to reduce cost and improve patient outcomes?

What Can the Manager Do?

• It is often said that the physician's pen is the most expensive technology in healthcare. The cascade of resource use that flows from the decisions physicians make accounts for more than 80 percent of overall health care costs.

What is a “Care Plan”?  

• Strategies designed to guide health care professionals involved with patient care. Such plans are patient specific and are meant to address the total status of the patient. Care plans are intended to ensure optimal outcomes for patients during the course of their care.
What is Patient Care?

- The prevention, treatment, and management of illness and the preservation of mental and physical well-being through the services offered by the medical and allied health professions.

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Therapist-Driven Protocols

- Also known as respiratory care- or patient-driven protocols, are prescribed plans for a specific respiratory care service that are implemented under respiratory care practitioners' supervision.

Therapist-Driven Protocols

- Studies have supported the effectiveness of the use of care plans in reducing costs and developing appropriate utilization of services.

Stoller JK. Respiratory therapist-driven protocols: rationale and efficacy. West J Med 1997; 167:408-410
What would a “Care Plan” for a tracheostomized patient look like?

Specific Issues Identified
- Risks associated with prolonged intubation
- Referral to speech pathology for swallowing assessment after patients begun on oral diet;
- Decannulation done without clear criteria;
- Vocal fold paralysis identified after decannulation;
- Re-admission to critical care area due to aspiration pneumonia

Project Statement:
- In 1997, a multidisciplinary airway management team at Charlotte Regional Medical Center was formed to develop effective and consistent care plans for patients with artificial airways
Indications for Tracheostomy

- Prolonged Mechanical Ventilation
- Inability to perform trans-laryngeal intubation
- Upper airway obstruction
- Secretion management
Reputed Indications

- Improved patient comfort/less need for sedation
- Lower work of breathing/faster weaning from MV
- Improved safety
- Improved oral hygiene and oral intake
- Less long term laryngeal damage
- Lower Ventilator-Associated Pneumonia rates
- Lower mortality
- Reduced ICU and overall length of stay
- Earlier ability to speak

Source: Durbin, C. Resp Care 2010;55(8):1056-1068

Timing of Tracheostomy

21 Days?
7-10 Days?
2-3 Days?

Does WHEN a tracheostomy is performed affect outcomes?

Why Early Referral of Tracheostomized Patients to Speech Pathology?
Benefits of the Passy-Muir® Valve

- Restores/mimics normal upper aero-digestive physiology
  - Improves swallow/reduces aspiration risk
  - Reduced suctioning and oxygen needs
  - Impacts weaning
    - Vent days
    - LOS
  - Reduced decannulation time
  - Impacts nutrition
  - Impacts infection control issues
  - Impacts communication
  - Impacts rehab participation and performance

Laryngeal Elevation

Improved Sensation

Vocal Cord Closure

Reduced Subglottic Pressure

Reduced Aspiration

Dettelbach et al., 1995; Stallmach et al., 1996; Opper et al., 2000; Soder et al., 2003; Canary et al., 2005

Early Use of the Passy-Muir Valve (48-72 hours) Post Tracheostomy May:

- Provide an additional diagnostic tool for assessing upper airway function
- Restore a closed pharyngeal system for improved expectoration, cough, swallow

Tracheostomy decannulation requires caution. Predictors of success include: ability to produce a vigorous cough and the absence of aspiration. Kent D. Christopher RRT Respiratory Care Vol 50 No4 April 2005

The interim trial of a physiological decannulation allows the clinician additional time to monitor cough effectiveness, swallow, voice quality, and the pt's ability to breathe thru the upper airway. Kent D. Christopher RRT Respiratory Care Vol 50 No4 April 2005
Early Use of the Passy-Muir Valve (48-72 hours) Post Tracheostomy May:

- Restore oral communication for reliable assessment of patient’s cognition and assessment of pain.
- Nursing interventions for patients on mechanical ventilation include:
  - Assessing and managing for pain
  - Reducing anxiety by communicating about upcoming procedures

Patient Selection

- Awake, alert attempting to communicate
- Medically stable
- Able to tolerate cuff deflation
  - Ventilation status
  - Aspiration status
- Able to manage secretions
- Tube must be small enough to allow air to pass
- Patient must have a patent upper airway
- Can be placed 48-72 hours after tracheotomy

Ventilation Criteria Suggestions

- Patient on $<0.60 FIO_2$
- PEEP requirements of $<10cm H_2O$
- PIP less than $40cm H_2O$
Placement Guidelines

- Patient education
- Peer education
- Suctioning
- Patient position
- Achieve cuff deflation - slowly!
- Assess for airway patency
  - Finger occlusion
- Place valve

Transitioning and Troubleshooting

- Anxiety
- Depression
- Airway patency
  - Tracheostomy tube size is most common issue
- Breathing pattern changes
- Coughing
- Retraining

Team Approach
How does a manager create, implement and maintain the Care Plan?

Facilitating Change

- Expect change to occur
- Expect to work for change as part of a system
- Ask others what changes are needed
- Think about how a successful outcome will look
- Consider the steps between where you are and where you want to be
- Take the first (or next) step with the goal in focus.
- Measure change and celebrate it when it happens

Plan
  • Choose your team wisely

Plan
  • Review the current process

Plan
  • Research the new process
Do
- Develop a champion

Do
- Gain approvals

GAIN APPROVALS

EDUCATE EDUCATE EDUCATE!
Check

- How do we know, and how do we show, that what we do in therapy makes a difference?
- Select your indicators
- Monitor the indicators

Patient characteristics & outcomes

- 48/53 patients received a PMV
- 33/53 patients were decannulated

Outcomes:

- Average length of time from tracheostomy to SLP referral = 3.8 days
- Average length of time from SLP consult to placement of PMV = 3.7 days
- 17 patients tolerated Passy-Muir® Valve at time of initial consult
Outcomes:
- 48/53 patients received Passy-Muir® Valve
- 5/48 patients required downsizing of tracheostomy tube. 43/48 patients had Shiley #8 trach tube on initial placement.
- Average days from Passy-Muir Valve to decannulation = 8.5 days

Our Outcomes Are Supported by the Findings of Others:
- “Long term airway risks are probably increased by a preceding prolonged intubation”
- “Tracheostomy should be performed as soon as possible after the need for prolonged intubation can be identified (7 days)”

Act
- Report success
Act

- Change for failures

Plan, Do, Check, Act process cycle continues as on-going process

Success
Questions?

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