Objectives

After reading this learning module, the staff member should be able to:

- Identify the impact noise may have on patients and staff.
- Describe measures which help create a healing environment.
- Discuss interventions to decrease the noise level in patient care areas.
Identified Sources of Noise at Aultman

- Tube system
- Cart noise
  - Food Carts
  - Lab Carts
- Alarms
  - Monitors
  - IV Pumps
- Bed
- Staff
- Squeaky Doors
- Televisions
Impact of High Noise Levels on Patients

- Annoyance and decreased patient satisfaction
- Sleep disruption and awakening
- Decreased rate of wound healing
- Decreased ability to fight infection
- Increased length of stay
- Higher incidence of re-hospitalization
- Additional research has shown decreased oxygen saturation, elevated blood pressure, increased heart and respiration rate among neonatal intensive-care patients *

* Source: The Beryl Institute White Papers
    Charting a Course to Quiet: Addressing the Challenge of Noise in Hospitals
Research Regarding Sleep Deprivation

- Changes in sleep duration and quality are more frequent in older persons
- Higher mortality
- Sleep disturbances can make physical and cognitive function conditions worsen
- Poor postural control
- Higher reaction time
- Higher the patient satisfaction levels with response time of the hospital staff along with quietness and cleanliness contributed to lower hospital–acquired injurious fall rates *

Impact of High Noise Levels on Staff

- Increased perceived work pressure, stress, and annoyance
- Increased fatigue
- Emotional exhaustion and burnout
- Difficulty in communication possible leading to errors

Source: The Beryl Institute White paper
Charting a Course to Quiet: Addressing the Challenge of Noise in Hospitals
GOAL

- Decreased stress and anxiety for patient and staff
- Patients sleep better
- Decrease alarm fatigue
- Decreased patient complaints
- Improved HIPPA compliance
- Improved healing
- Increased patient satisfaction
Priority Areas of Focus

- Nursing stations
- Patient rooms
- Hallways
- Intensive care units
- Lobbies and waiting rooms
Top Challenges within Aultman

- Cart and equipment noise
- Volume of conversations: staff, patient and visitors
- Nurses stations and hallways
- Behavior change and staff accountability
- Environment: building layout, size and space
Action Plan to Provide a Quiet Environment

- Establish quiet time where lights are dimmed and quiet is made a priority: time frame = 10pm to 5am
- Offer earplugs to patient
- Offer to shut patients door depending on patient status
- Utilize calming channel (C.A.R.E. channel 80)
- Provide staff education
- Place HUSH signage in strategic locations
Research on the Use of Earplugs

- The use of earplugs in the ICU setting results in more REM sleep and improved sleep quality.
- Noise and light disrupts sleep in patients in the ICU.
- The use of earplugs and eye masks promote sleep and hormone balance (elevation of nocturnal melatonin levels).

Hu et al. Critical Care 2010
C.A.R.E. Channel

- Channel 80
- Provides calming music and photographs to create a peaceful environment for patients
- Replaces the noise of the hospital environment with “good sounds” and enhances the patient experience
- Remind the patients that this service is available
The C.A.R.E. Channel
2012 Content Update is on its way to you!

- Includes 26 hours of new footage from Hawaii, Yellowstone, Jamaica, Peru & more

- Now 100% sourced with High-Definition Video for improved SD and HD broadcast

- Greater variety of musical artists

Transforming care at the bedside since 1992

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Utilize Signage to Reinforce the Quiet Zone
Future Plans

- Trial “Quiet Time” during specific afternoon hours
- Possible offering of eye masks to patients
- Possible utilization of White Noise / Sound Masking through the hallways and nurses stations
- Offer patients Guided Imagery instructional video through Video on Demand system
What is White Noise?

- White noise is a type of noise that is produced by combining sounds of all different frequencies together.
- It is used frequently to mask other sounds.
- Utilized frequently in office settings and is gaining popularity in the health care setting.
- Found to be effective in reducing noise intensity in the ICU decreasing arousals from sleep.

Stanchina et al. Sleep Medicine 6 (2005) 423-428
The next few slides provide a summary of Guided Imagery by defining it and its’ potential benefits to patients.

Special thanks to Barbara Fordyce, PhD, for providing this option to our patients.
Integrative Medicine
Mind-Body Connection

- The mind and body interact in ways that are critical for health and well-being.

- This approach to health states loudly and clearly that the causes, development and outcomes of an illness are determined by the interaction of psychological, social and cultural factors with biochemistry and physiology.
Guided Imagery Is...

- A simple low cost therapeutic tool that can ease patients’ anxiety and promote relaxation.

- A directed, deliberate daydream, a purposeful creation of positive sensory images (sights, sounds, smells, tastes and feelings).

- A state of focused concentration that allows for a temporary escape and produces a sense of physical and emotional well-being. Our bodies do not discriminate between sensory images in the mind and what we call reality.

- Allows for patients to take an active role in their care and healing.
Guided Imagery

- Music is an important part of guided imagery.

- Music affects the human physiology through electrical conduction, heart rhythm, circulation and respiration. (Fisenman, 1995)

- Music has been shown to release endorphins in the brain reducing the intensity with which pain is experienced. (Tusek, 2000)

- A review of RCTs shows that perioperative music intervention works and has multiple, desirable clinical effects, primarily in the reduction of pain, anxiety and stress. (Nilsson, 2008)
Research

- Over 200 research studies in the past 30 years have explored the role of mind-body techniques in preparing people for surgical and medical procedures. These studies have demonstrated that guided imagery:

  1. Significantly reduced stress and anxiety before and after surgical and medical procedures.

  2. Dramatically decreased pain and the need for pain medication.
Research (continued)

3. Decreased side effects and complications of medical procedures

4. Reduced recovery time and shorten hospital stays

5. Enhanced sleep

6. Strengthened the immune system and enhanced the ability to heal

7. Increased self-confidence and self-control
Guided Imagery Research with Perioperative Patients

- Cleveland Clinic study by Tusek, Church and Fazio (1997)
  Research group listened to guided imagery tapes for 3 days prior to procedure, during anesthesia induction, intraoperatively, in the postanesthesia care unit and for six days after surgery.

- Experienced considerably less preoperative and postoperative anxiety and pain

- Required almost 50% less narcotic medications after their surgical procedures.
Follow-up Study


- Additionally, it increased patient, family and staff satisfaction and reduced hospital cost.
Meditation and Imaging

Functional Brain Mapping of the relaxation response and meditation:

- Areas of the brain known to be involved in attention and in control of the autonomic nervous system are activated, providing a neurochemical and anatomical bases for the effects of meditation on various physiological activities (i.e. significant increases in left-sided anterior brain activity, positive emotional states and increases in antibody titers to influenza vaccine) Davidson, Kabat-Zinn, Schumacher, 2003 and Lazar, Bush, Gollub, 2000.
Aultman Quiet Environment Project: KEY POINTS

Research shows the impact of noise is related to the patients healing and recovery.

Current endeavors include:
- Pilot project on Memorial 4 North and Memorial 4 East
- The use of earplugs
- Hush signage
- Staff education

Future plans include the use of guided imagery on the video demand system, use of eye masks and sound masking.
Next Steps

- After you have read and understand the content in this learning module, please proceed to the quiz section of Quia and access the **Accountability Statement: Quiet Environment Project**.
- Please indicate the appropriate response on the Accountability Statement.

For questions, please contact:

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