Early Activities in ICU Occupational Therapy

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Minnesota Occupational Therapy Association 2015 Annual Conference
November 7, 2015
Cell Phones & Pagers

Please turn cell phones and pagers to silent/meeting mode.
Disclosures:

Relevant Financial Relationships
None

Off-Label/Investigational Uses
None
Disclaimer

• You **will not** find the right answer here on how to treat ICU patients.

• You **will** find many reasons to ask the next question or try a different intervention on behalf of your patient.
Objectives

Participants will state understanding of:

• the reasons for early OT activity interventions in the ICUs,

• the importance of interdisciplinary teamwork,

• evidence based functional treatment interventions, &

• the need for further research.
Reasons for OTs to be in the ICU

• It’s the right thing.
• OTs are the right people.
• It’s the right time to do it.
• The patients & their families need us.
• Satisfaction/Sense of fulfillment.
Philosophy of Occupational Therapy

“In its simplest terms, occupational therapists and occupational therapy assistants help people across the lifespan participate in the things they want and need to do through the therapeutic use of everyday activities (occupations).” (AOTA, 2012, underline added.)
Reasons of the patient in ICU

• What does an ICU patient want or need to do?

Photo 1.
Reasons

• Survival
• Increased Quality of Life
• More time with family & friends
• Milestone events (wedding, births, birthdays)
• Legacy
• Increased function
• Others?
Why OT in the ICU?

“A strategy for whole body rehabilitation consisting of interruption of sedation and physical and occupational therapy in the earliest days of critical illness was safe and well tolerated, and resulted in better functional outcomes at hospital discharge, a shorter duration of delirium, and more ventilator free days compared with standard care.” (Italics & highlight added).

Why OT in the ICU?

• Add slide about non-pharmacological proven methods of therapy
The PEOP Model
Person-Environment-Occupational Performance

• The PEOP approach is a frame of reference which describes the interrelation between person, their environment, & their occupational performance.

• Developed in 1985 and published for the first time in 1991 by Charles Christiansen and Carolyn Baum.
Why the PEOP Approach?

• Each construct (Person, Environment, & Occupational Performance) builds on the others and represents a holistic approach.

• OTs can organize information & identify areas that require further enhancement of ICU clinical skills.

• Model can be applied to a person, population, or organization as the “Person”
PEOP

People

People: Interdisciplinary Team

- Patient
- Patient’s family/friends
- Nursing staff
- Physicians/residents
- Pharmacist
- PT, OT, SLP, Techs
- Respiratory therapist
- Administration
- Health unit coordinators
- Perfusionists
- Volunteers
- Chaplain Services
- Pet Therapy
- YOU!!!
People: The patient population

- Unstable respiratory status
- Unstable hemodynamic status
- Unstable cardiac status
- Requiring invasive mechanical ventilation
- Temporary or transvenous pacemaker
- Impending respiratory failure
- Electrolyte or metabolic imbalance
- Intracranial pressure monitoring
- Open heart procedures
- Requiring ECMO
- Pre/Post transplant
- Artificial heart, LVAD, RVAD, BiVAD
People: The Family

- May be most consistent person
- Multiple family
- Family disagreements
- Therapy ally or foe
- Beliefs: Spiritual, Cultural, Political
- Motivators
- Knowledge base of health care situation
Environment

“The environment is everything that isn't me.”

by

Albert Einstein

Taken from Brainyquote.com.
Environment

Photo 2
Environment
Environment
Occupation

What is this person’s occupation?

Photo 2.
Occupations: A Cornerstone of OT Practice

*Occupational Therapy is defined as the therapeutic use of everyday life activities (occupations) with individuals or groups for the purpose of enhancing or enabling participation in roles, habits, and routines in home, school, workplace, community, and other settings.* (underline added).

AOTA, p.S1, 2014
Occupations for ICU patients from OT Practice Framework

- Activities of Daily Living (ADLS)
  - Bathing and Showering
  - Toileting and Toilet Hygiene
  - Dressing
  - Feeding
- Functional Mobility
- Personal Device Care
- Personal Hygiene and grooming

AOTA, p. S1, 2014
Occupations for ICU patients from OT Practice Framework (cont.)

• Instrumental Activities of Daily Living (IADLS)
  • Communication Management

• Rest and Sleep
  • Rest
  • Sleep Preparation

• What about cognition?
  • Categorized as a client factor: Mental Functions
  • Need more awareness due to increased risk for delirium in the ICU population

AOTA, p.S1, 2014 & Balas et al., 2014.
Occupations for ICU patients from OT Practice Framework (cont.)

- Cognition
  - Orientation (person, place, time, situation)
  - Attention (Alert)
    - Focused
    - Sustained
    - Selective
    - Alternating
    - Divided
    - Concentration
Occupations for ICU patients from OT Practice Framework (cont.)

• Cognition
  Memory
    • Immediate
    • Short term
    • Long term

• Executive Function
  • Knowledge base
  • Goals: Forming, Planning, Achieving
Occupational Performance

- So, how do we link the person in their ICU environment to yield occupational performance?

Person + Environment + Occupation = Performance
Occupational Performance

• Early Activities in the Intensive care unit

Early Activity VS. Early Mobility
Danger!! Delirium Ahead!!
Delirium

• “Delirium is defined as a disturbance of consciousness with inattention accompanied by a change in cognition or perceptual disturbance that develops over a short period of time (hours to days) and fluctuates over time [The Diagnostic and Statistical Manual of Mental Disorders (DSM IV)].” (ICUdelirium.org)

• Characteristics of delirium
  • Disturbance of consciousness
  • Acute onset and fluctuating course
  • Disorientation
  • Inattention
  • Impaired memory
  • Disorganized thinking
  • Hallucinations, delusions
  • Hyperactive, hypoactive, or mixed
Delirium

- There are many risk factors for delirium. According to a systematic review, the following were identified as having strong evidence:
  - age
  - dementia
  - hypertension
  - pre-ICU emergency surgery or trauma
  - Acute Physiology and Chronic Health Evaluation II score
  - mechanical ventilation
  - metabolic acidosis
  - delirium on the prior day
  - Coma

(Zaal et al., 2015)
Delirium

• Why do we care?

  • Time mechanically ventilated
  • Length of hospital stay
  • Cost
  • Mortality
  • Long term deficits in cognition and ADLs

(Brummel et al., 2014) (ICUdelirium.org)
Delirium

https://www.youtube.com/watch?v=mKcbeXVdygg&list=PLLbBZOlyRri2hHWX5xg2i_mUB7qla9D8L&index=3
Non-pharmacological Intervention Ideas

- Re-orientation and reassurance
- Awareness of self/Surroundings/situation
- Education
- Environmental modification
- Encouraging use of personal devices (visual aids, hearing aids, dentures)
- Engagement in rote activities
- Engagement in cognitively stimulating activities/exercises
- Involving caregivers
Occupation-based Intervention Ideas

- Sleep
  - OT’s role:
    - Identifying poor sleep
    - Providing recommendations to promote sleep hygiene
    - Engagement in activities during the day time
    - Relaxation interventions
  - Non-pharmacological interventions
    - Early activity/mobility during the day time
    - Ear plugs
    - Eye shields
    - Relaxation music
    - Minimizing sleep disruption
    - Environmental modification
Occupation-based ADL Activities

- Grooming
  - Oral cares
  - Washing face and hands
  - Hair management
  - Shaving
  - Make-up application
  - Painting/Filing nails
Occupation-based ADL Activities

- Bathing
  - Sponge bathing/bed bath
  - Seated sponge bath
  - Shower
  - Tub/ shower transfers
Occupation-based ADL Activities

- Toileting
  - Clothing management
  - Hygiene cares
  - Bed mobility for bedpan placement
- Feeding
  - Handling/holding utensils
  - Scooping/stabbing/cutting
  - Transitioning food to mouth
  - Opening packages
Occupation-based ADL Activities

• Dressing
  • Upper body
  • Lower body
  • Fasteners

• Functional Mobility
  • Slide board transfer
  • Low pivot transfer
  • Stand pivot transfer
  • Toilet transfer
  • Use of lift device
Occupation-based ADL Activities

- Supine/Supported sitting in bed
- Edge of bed sitting (dangle)
- Chair level
- Standing
Occupation-based ADL Activities

• Relaxation Activities

• Breathing Practice
  • Pursed-lip breathing trials
  • Diaphragmatic breathing
Occupation-based ADL Activities

• Cognitive tasks
  • Memory
    • IPad games, cards
  • Problem solving
    • Correcting error with folding task
    • Identifying gown is buttoned incorrectly
    • Simple calculations/games with cards
    • Sorting: cards, cups
    • Scanning tasks/environmental awareness
    • Object identification
Occupation-based ADL Activities

- Passive Range of Motion (PROM)
- Active Assist Range of Motion (AAROM)
- Active Range of Motion (AROM)
Occupation-based ADL Activities

• Strengthening

• Functional Activity Tolerance
Education Activities

- Equipment
- Energy conservation
- Precautions (cardiac, spine, weight bearing, drive lines, showering)
- Functional maintenance programs
- Safety
- Positioning
- Orthotics
- Edema
PEOP

Case Study: Occupational Profile

• Patient is a 47 year old female with:
  • acute liver failure,
  • hepatic encephalopathy,
  • cerebral edema requiring a neuro consult
  • septic shock.

• She required:
  • multiple pressors,
  • 8 liters of fluids,
  • a bolt placed for ICP monitoring,
  • progressive metabolic acidosis,
  • CVVH.

• She had a Liver transplant 2 days after arrival and was extubated 2 days later.
Case Study: Client Factors

- Full range of motion against gravity in upper extremities and lower extremities, grade of 4/5 for manual muscle test
- No sensation deficits
- Scored 14/30 on the Montreal Cognitive Assessment
  - Deficit areas: executive function and memory
- Independent with static sitting balance, moderate assistance for dynamic sitting balance
- Required 3L O₂ via nasal cannula
- Poor fine motor coordination
- Could stand with minimal assistance for <1 minute
- Was not ambulating
Time to Practice Your Skills!

• Please break up into groups of 4-5
• You are starting therapy the day she is extubated.
  • Identify 3 activities for your patient in ICU
  • Share with the group
Case Study #2
Case Study #3
ICU OT Activity Research

• Need to prove your efficacy!
Questions & Discussion
Credits

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Locations

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Jacksonville, Florida
References


• Delirium in the Elderly Patient. Video. Retrieved from https://www.youtube.com/watch?v=mKcbeXVdygg&list=PLLbBZO1yRri2hHWX5xg2i_mUB7q1a9D8L&index=3 on 10/15/15.

References (continued)


• Photo 1. “ICU Patient.” Photo provided on 10/18/14 by P. Cornelius, PT, with signed consent from patient.
