Sleep, Sleepiness and Fatigue: What are We Concerned About?
“...sleep is increasingly being recognized as an essential aspect of health promotion and chronic disease prevention...”

– Centers for Disease Control and Prevention

“An estimated 50 to 70 million Americans have some type of chronic sleep disorder “ {Colten & Altevogt, (2006), Sleep disorders and sleep deprivation: An unmet public health problem, National Academies Press}.
Percent of People Reporting $\geq 14$ d. of insufficient sleep in the last 30 days
Joint Commission Sentinel Event Alert

- Assess organizations for fatigue-related risks
- Assess your organization’s hand-off processes and procedures
- Invite staff to design work schedules to minimize potential fatigue
- Create and implement a fatigue management plan that includes scientific strategies for fighting fatigue
- Educate staff about sleep hygiene
- Provide opportunities for staff to express concerns about fatigue
- Encourage teamwork
- Consider fatigues as a factor when reviewing adverse events
- For organizations providing sleep breaks: Assess the environment to ensure it fully protects sleep

Joint Commission, Health care worker fatigue, Issue 48; December 14, 2011; www.jointcommission.org
Definitions
Sleep

• A universal, restorative state
• A neuro-biologic drive
• Governed by a complex interplay of individual homeodynamic mechanisms, circadian factors, and socio-cultural phenomenon
Sleepiness

• A physiologic drive or need for sleep; decreased ability to maintain wakefulness (Kirsch, 2007)

• A state of drowsiness, characterized by sleep propensity and determined by sleep pressure (Pigeon et al., 2003)

• A state of decreased vigilance, alertness, sustained attention – degree of arousal, as well as cognitive performance (Oken et al., 2006)

• A tendency to fall asleep (Shen & Shapiro, 2006)

Fatigue

- A distinct, multi-causal phenomenon; feelings evoked by intero- or neuro-receptors.
- Overwhelming state of tiredness characterized by lack of/low energy, feelings of exhaustion, and lethargy.
- A homeostatic mechanism, like hunger, designed to motivate behavior.
- A reduction in physical and mental activities; task avoidance, reduced effort and task failure.
- Difficulty in initiating or sustaining voluntary physical or mental efforts.
- Fatigue can be temporary, transient, or persistent and chronic.
- Fatigue is modifiable; and, reverses with rest.
- Experienced normally by even the fittest of individuals as well, fatigue is a symptom of poor physical fitness and illness

The Physiology
Sleep and Alert States

Melatonin Receptors
Alertness and arousal

- Arousal states are mediated by ascending reticular activating pathways in the upper brain stem.
- Pathways innervate the thalamus, posterior hypothalamus and forebrain.
- Arousal pathways contain neurotransmitters that fire in a characteristic pattern to promote arousal.
- The pathways are inhibited during sleep by sleep-active neurons in the suprachiasmatic nucleus.
- The interaction between these pathways functions much like an electrical “on-off” switch.
Mechanisms of Sleep Regulation

• Sleep-wake cycles are oscillatory processes; the homeostatic sleep drive or sleep pressure builds over periods of wakefulness
• Ideally the sleep-wake cycle is entrained with other biological clocks, including temperature, and hormone secretion
• The sleep-wake cycle is governed by the suprachiasmatic nucleus; “a pacemaker”, which responds to light and dark
• Biological clocks sometimes need to be reset
• Internal timing and ability to synchronize differs from one individual to the next, i.e., chronotypes
Figure 5  Schematic of the "opponent processes" mediating physiological sleepiness as a function of time of day. Sleep drive increases in response to wakefulness imposed and/or maintained by the suprachiasmatic pacemaker. Increasing levels of SCN-dependent alerting over the subjective day opposes homeostatic sleep drive, both of which peak shortly before the habitual sleep phase. (From Ref. 66.)
Increased Sleep Drive Increases NREM Sleep

Latency to NREM sleep decreases exponentially as time awake increases.

- waking EEG
- sleepy (eye closed; 8-12 cps)
- stage 1 non-REM (3.5-7 cps)
- stage 2 non-REM (some 0.5-3 cps)
- stages 3+4 slow wave sleep (SWS) (0.5-3 cps)
- rapid eye movement sleep (REM)
• Elevated sleep drive results in faster transitions to sleep and to EEG high voltage slow waves in NREM.

• Time constant for the elevation of HOMEOSTATIC PRESSURE for sleep during waking is much longer than the decline in homeostatic pressure during recovery sleep, due to the rapid intensification and exponential decay rate of nonREM slow wave activity.
Our biological imperative for sleep is in conflict with the human systems that require some of us to be awake at times that run counter to our biological heritage.

Sleep Loss and Vulnerability to Fatigue

“We are the only species to light the night”
Sleep Debt

• The difference between the amount of sleep you should be getting and the amount of sleep that you are getting (Ronneberg, 2012).
• Work and travel time are inversely related to sleep duration (Dinges, 2008).
• Sleep time is primarily influenced by television viewing (Basner & Dinges, 2009).
• Wake times are primarily influenced by the alarm (Basner & Dinges, 2009).
• Sleep debt can be acute or chronic
• Generally, sleep debt is insidious, and until severe, usually not recognized

# Recommendations
National Heart, Lung and Blood Institute, (2012)

<table>
<thead>
<tr>
<th>Age</th>
<th>Recommended Amount of Sleep</th>
</tr>
</thead>
<tbody>
<tr>
<td>Newborns</td>
<td>16–18 hours a day</td>
</tr>
<tr>
<td>Preschool-aged children</td>
<td>11–12 hours a day</td>
</tr>
<tr>
<td>School-aged children</td>
<td>At least 10 hours a day</td>
</tr>
<tr>
<td>Teens</td>
<td>9–10 hours a day</td>
</tr>
<tr>
<td>Adults (including the elderly)</td>
<td>7–8 hours a day</td>
</tr>
</tbody>
</table>
Sleep Facts

• 28% of adults report sleeping 6h or less per night (Luckhaupt et al., 2010)

• Most modern Americans sleep about 6.5-7.5 hours/night (National Sleep Foundation, 2005); at the turn of the century most Americans slept 8-9 hours/night

• Most people sleep more on non-work days

• Individuals working nights and those rotating shifts rarely obtain optimal amounts of sleep

• Effects of sleep deprivation vary according to one’s chronobiology
  • Chronotype-heritable trait
    • Early versus late
    • Sleep duration
Sleep Loss, Sleep Debt and Social Jet Lag
(Ronnenberg, 2012)

• Individual vulnerabilities to sleep loss exist and exist on a continuum
• Cumulative sleep debt results in a social jet lag
  • Cognitive problems
  • Mood alterations
  • Reduced job performance
  • Reduced motivation
  • Increased safety risks and the risk of making errors
  • Physiological changes
Sleep Loss Vulnerability

- People do not appear to be aware of their differential vulnerabilities to a night of sleep deprivation.
- These differences meet criteria for a phenotype or observable trait.
- Characteristic can be made visible by a technical procedure (e.g., sleep deprivation).
- Product of genotypes, but also influenced by extragenetic or environmental factors (sleep hx).
- Phenotypic variation is fundamental for evolution by natural selection.
Phenotypic Vulnerability to Sleep Loss

• Repeated exposure to a single night of sleep loss revealed strong evidence that the large inter-individual differences in neuro-behavioral deficits were trait-like (ICCs ranged from 0.67 to 0.92) (Van Dongen, et al. SLEEP, 2004). Inter-individual differences in neurobehavioral deficits become larger when chronic sleep restriction is severe (Van Dongen et al. SLEEP, 2003).

• Differences were not explained by subjects’ prior sleep, baseline functioning or a variety of other factors (Van Dongen, et al. SLEEP, 2004).

• They suggest people differ markedly and reliably in their vulnerability to sleepiness and impairment from sleep deprivation (Van Dongen, et al. SLEEP, 2004).

• Differential vulnerability to sleep restriction also appears to involve differential recovery ability (range is 0-10 hours); (Banks et al. SLEEP, 2010)
Type 1 Response

Subjects awake for 86 h do not reach the “functionally asleep” threshold; they display full circadian rescue each day; and often perform the Psychomotor Vigilance Test (PVT) in the alert range.
Type 2 Response

Both subjects reach a “functionally asleep” threshold of 30 lapses per 10-min PVT by day 2, but both have substantial circadian rescue each day.
Type 3 Response

Both subjects reach a “functionally asleep” threshold of 30 lapses per 10-min PVT at 16h awake. Both are very vulnerable to sleep deprivation.
Factors That Contribute to Sleep Loss and Its Consequences (Redeker & Phillips McEnany, 2011)
Lapses of attention are errors of omission and when they occur errors of commission can increase (Doran et al., 2001; Lim & Dinges, 2008)

Sleep Loss, Psychomotor Vigilance Testing (PVT) and Reaction Time (RT)
Healthcare Worker Fatigue

“Fatigue increases the risk of adverse events, compromises patient safety, and increases risk to personal safety and well-being.” (Joint Commission, 2011)
Performance Fatigue

• Determinants are fatigability and recovery

• Fatigability—the ease with which fatigue can be induced;
  • The degree of decline in the function of a tissue, organ, or organ system in response to a type or level of performance;
  • Feelings or perceptions of weariness or tiredness in response to a given level of performance.

• Recovery—the rate at which the decline in function or physiological response returns to the baseline level following performance

• The rate at which feelings or perception of weariness or tiredness resolve to baseline levels after performance
Fatigue and Healthcare Workers

- Increased workplace violence and/or apathy
- Decreased productivity
- Increased patient errors
- Increased worker injuries
- Increased illnesses
- Increased incidence of driving while drowsy accidents
- Greater near miss incidents

(Balas, Scott, & Rogers, 2004; Dingley, 1996; Josten, Ng-A-Tham, & Thierry, 2003; Kunert, King & Kolkhorst, 2007; Richardson, Turnock, Harris, Finley, & Carson, 2007; Rogers et al., 2004)
Staff Nurses and Fatigue

• 29.1% of the 11,387 shifts studied were worked by nurses who had less than 6 hours of sleep
• Neither childcare nor elder care were associated with reduced sleep times
• Longer work shifts, longer commutes, higher caffeine intake, poor sleep, and older age were associated with shorter sleep durations
• Childcare responsibilities were associated with shorter sleep times on non-workdays
• 12 hour shifts increase the risk for fatigue; typically there is less intershift recovery time-this is exacerbated by overtime and on-call duties (Josten, 2003)
Effects of Inadequate Sleep on Nurses

- Lapses in attention and inability to stay focused
- Reduced motivation
- Compromised problem solving
- Confusion
- Irritability
- Memory lapses
- Impaired communication
- Slowed or faulty information processing and judgment
- Diminished reaction time
- Indifference and loss of empathy

On-Call Work, Sleep Inertia and Performance

• Sleep inertia-what occurs when a person is suddenly awakened particularly from a deep sleep

• Theoretically linked to the build up of adenosine within the brain during non-REM sleep leading to feelings of tiredness.

• Often referred to as grogginess or fogginess

• Sleep inertia has a significant impact on performance, more so than continuous wakefulness

Sleep Debt and Perceived Performance

- HCW’s with significant sleep debt self-report they are highly alert while objective performance measures are notably impaired.
- Performance is poorest toward the end of the biological night.
  - Significant lapse of attention and reaction time.
  - Cognition declines.
  - Motor skills decline.

Cajochen et al., and Jewett et al., 1999;
Fatigue and Injuries

- Hours worked per day, weekends worked per month, working evening and night shifts, and 13 or more hours per day at least once per week were each significantly associated with needlestick and musculoskeletal injuries (Trinkoff et al., 2007).
Fatigue and Medication Errors

• Working $\geq 12.5$ hours was associated with a threefold increased risk of errors (OR= 3.29, $p = .001$); (Rogers et al., 2004)

• Nurses working 12.5 hours had twice the risk of making a medical error (OR = 1.94, $p = .03$); (Scott et al., 2006)
The Relationship Between Fatigue, Staffing, Performance, and Safety

Denise Famalaro, MS, RN
Jeanne-Marie Havener, PhD, APRN
Bassett Healthcare
Purpose

• To examine the relationship between levels of nursing staff fatigue and scheduled work (hours of work, shift work, over time, and recovery time), patient safety, staff safety, and work performance in nursing staff employed in a rural health care setting.
Sample and Methods

• Convenience sample of rural registered nurses
• Acute care, ED, OR, peri-op nurses
• N = 605; n = 106
• Intranet recruitment
• Self-administered electronic survey instruments
• Cross-sectional, correlational
Demographics

- Mean age 40.5; (20-70)
- 20 males, 86 females
- 92% Caucasian
- 66% married or cohabitating with a partner; 28% single; 5% divorced; 1% widowed
- 48% were responsible for dependents; 1% for dependent elders
- 80% with > AAS in nursing
- 95% worked 12 hour shifts (avg hours worked per day 11.6); 15% part-time
- Nearly 100% were in school (avg hours 34.5/week)
- Average work plus commute day = 12.7 hours (min = 5.5, max = 38)
Instruments

- Demographic-investigator designed-29 items
- Pittsburgh Sleep Quality Index® (Buysse, Reynolds, Monk, Berman, Kupfman, 1989)-20 items
- Occupational Fatigue Exhaustion Recovery Scale (OFER 15)-15 items; measures acute fatigue, chronic fatigue, and intershift recovery
- Nurse Performance Instrument (Barker and Nussbaum, 2010)-13 items-measures nurse perceptions related to performance
- Fatigue Assessment Scale-10 items
- Select items from the Job Content Questionnaire-50 items
Work Performance and Chronic Fatigue

• No statistically significant correlations \((p < .05)\) were found between self-reports of chronic fatigue and finding it necessary to take short cuts; apply the five right principles when administering medications; ability to perform fine motor skills without difficulty; or incurring an injury or health/mental health issue.

• Significant and moderately positive correlations \((p < .05)\) were found between measures of chronic fatigue and self reports of near misses and errors.
Work Performance and Chronic Fatigue

• Significant negative correlations were found between chronic fatigue and a number of factors;
• Decreased self-reported levels of chronic fatigue resulted in perceived increases in ($p < .05$)
  ▪ muscle strength, endurance or physical energy;
  ▪ ability to carry out safe nursing practice;
  ▪ ability to practice nursing according to established safety guidelines;
  ▪ ability to complete assigned tasks in a timely fashion;
  ▪ concentration or alertness affecting ability to perform patient monitoring, medication administration, or documentation during a work shift;
  ▪ mood, mental energy, or attentiveness effecting ability to communicate with other members of the health care team;
  ▪ ability to follow existing organizational guidelines for safe patient handling; modifications to standards to get the work done.
Work Performance and Acute Fatigue

• No statistically significant correlations ($p < .05$) were found between self-reported acute fatigue and perceived changes in physical performance on tasks and taking short cuts.

• Significant and moderately positive correlations ($p < .05$) were found between self-reported acute fatigue and the reporting of patient care errors and near misses.
Work Performance and Acute Fatigue

• Significant negative correlations \((p < .05)\) were found between acute fatigue and a number of factors such that decreased levels of acute fatigue resulted in (an) increased:

  ▪ ability to complete assigned tasks in a timely manner;
  ▪ concentration or alertness that affect ability to perform monitoring, medication administration, or documentation during a shift;
  ▪ mood, mental energy, or attentiveness affecting ability to communicate with the health care team, patients and family.
Work Performance and General Fatigue

• No statistically significant correlations \((p < .05)\) were found between general fatigue and taking short cuts in patient care; ability to perform fine motor skills; errors potentially resulting in patient harm or self harm/injury.

• Significant positive correlations \((p < .05)\) were found between general fatigue and self reporting near errors.
Work Performance and General Fatigue

- Significant negative correlations ($p < .05$) were found between self-reported general fatigue and a number of factors such that decreased levels of general fatigue resulted in (an) increased:

  - ability to perform physical tasks during a shift;
  - ability to carry out safe nursing practice;
  - ability to practice nursing according to established safety guidelines;
  - ability to complete assigned tasks in a timely fashion;
  - concentration or alertness affecting ability to perform patient monitoring, medication administration, or documentation;
  - mood, mental energy, or attentiveness affecting ability to communicate with members of the health care team, patients and family;
  - following existing organizational guidelines for safe patient handling.
Work Performance and Sleep Quality

• No significant positive correlations ($p < .05$) were found between perceived sleep quality and perceived work performance.

• Significant negative correlations ($p < .05$) were found between sleep quality and self-reporting of errors that resulted in patient harm.
  ▪ Decreased sleep quality resulted in increased errors
Work Performance and Hours of Scheduled Work per Week

• No statistically significant correlations ($p < .05$) were found between reported scheduled work hours per week and perceived changes affecting ability to perform physical tasks; carry out safe nursing practice, according to established safety guidelines; complete assigned tasks in a timely fashion; perform fine motor skills without difficulty; changes in concentration or alertness affecting patient monitoring; changes in mood, mental energy, or attentiveness affecting ability to communicate with health care team; incurring injuries.
Work Performance and Work Hours

• Significant positive correlations \( (p < .05) \) were found between hours of scheduled work per week and taking short cuts in patient care; applying the five rights principles of medication administration; and, following existing organizational guidelines for safe patient handling.

• Significant negative correlations were found between hours of scheduled work per week and self reporting near errors and errors.
Work Performance and Intershift Recovery

• No statistically significant correlations were found between intershift recovery and taking short cuts in patient care; ability to practice according to established safety guidelines; completing assigned tasks in a timely fashion; ability to perform fine motor skills; self reporting of errors and near errors; incurring injuries or health concerns.

• Nurses with decreased intershift recovery self-reported that they were less likely to experience work performance issues.
Work Performance and Intershift Recovery

• Significant positive correlations were found between intershift recovery and a number of factors. Increased intershift recovery resulted in (an) increased:
  • ability to perform physical tasks during a shift;
  • ability to carry out safe nursing practice;
  • concentration or alertness affecting ability to perform patient monitoring, medication administration, or documentation;
  • mood, mental energy or attentiveness affecting ability to perform patient monitoring, medication administration or documentation during a shift,
  • mood, mental energy or attentiveness affecting ability to communicate with other members of the health care team, patients and family.
Intershift Recovery and Fatigue

- There were statistically significant differences (p< .05) in mean acute, chronic, and general fatigue scores based on intershift recovery; those with less recovery time between shifts self-reported significantly greater levels of acute, chronic, and general fatigue.

<table>
<thead>
<tr>
<th>Intershift Recovery Score</th>
<th>Chronic</th>
<th>Acute</th>
<th>General</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-32</td>
<td>67.23*</td>
<td>88.23*</td>
<td>32.62*</td>
</tr>
<tr>
<td>33-65</td>
<td>41.07</td>
<td>61.07</td>
<td>22.36</td>
</tr>
<tr>
<td>66-100</td>
<td>36.70</td>
<td>62.10</td>
<td>23.60</td>
</tr>
</tbody>
</table>
Difference in Fatigue Scores for those Reporting Or Not Reporting Errors

• No statistically significant differences in acute or chronic fatigue scores were found amongst subjects who did or did not report errors.
Differences in Fatigue based on Age, Unit/Area, On-call Status, Employment Status And Position

• There were no statistically significant differences in fatigue scores amongst subjects based on their age, where the subjects were employed, their on-call status, their employment status (part-time/per diem or full time), the shift that they worked or the role that they performed.

• Significant negative differences in fatigue scores existed amongst subjects based on the perceived level of intershift recovery such that those with lower intershift recovery scores, i.e., less recovery, reported greater acute, chronic, and general fatigue than those with moderate to high recovery scores.
Conclusions

• The findings from this study suggests that acute, chronic, and general fatigue can negatively effect self-reported measures of performance—in particular, patient care errors and near misses.

• Performance fatigue may be related to a greater tendency to take short cuts and the under reporting of errors and near misses.

• Rules, guidelines, and maxims may provide nurses who are experiencing performance fatigue a means for preventing errors.

• Nurses participating in this study tended to deny the harmful effects of sleep on self-performance that is seen in the general public.

• Intershift recovery may be important in mitigating the effects of fatigue.
Neuro-Cognitive Effects of Sleep Loss

• *Sleep loss is cumulative and people are often not aware of how much it is affecting alertness and performance.*

• Cognitive performance degrades across days of sleep restriction, but sleepiness/fatigue ratings show much less change.

• In healthy adults (22-55 years) behavioral lapses occur more frequently with each day of sleep duration below 7 hours (Belenky et al., 2003; Van Dongen et al., 2003; )


“We have been slow to accept that we have physical limits and biologically we are not built to do the things we are trying to do.”
Ann Rogers, Ph.D., RN, F.A.A.N., Emory University
Compassion Fatigue
1. Personal characteristics, including exposure to primary trauma.
2. We strongly recommend a measure of primary trauma such as the PCL, especially if work is in dangerous area.
Nursing and Compassion Fatigue

• Nursing is an applied human science characterized by empathy, care and concern for others
• Nursing care is an inter-subjective experience
• Nurses work in high stress environments and directly and indirectly witness traumatic events (death, injury, or threat to the physical integrity of another)
• Nurses exhibit varying degrees of resiliency or self-protection against compassion fatigue
Nurses and Compassion Fatigue

• Caregivers with compassion fatigue begin to identify with a clients trauma in a way that goes beyond empathic care (Cerney, 1995)

• The caregiver undergoes a transformation in their inner experience as a result of empathic engagement (McCann & Pearlman, 1990a; Pearlman & Saakvitne, 1995); this can produce lasting effects as the nurse discovers that his or her basic assumptions (about the world) are no longer true (Rosenbloom, Pratt, & Pearlman, 1995).
Compassion Fatigue-Burnout

- Gradual in onset; a process
- A state of physical, emotional, and mental exhaustion caused by long term involvement in emotionally demanding situations (Pines & Aronson, 1988, p. 9)
- Lead to hopelessness and difficulty dealing with work or doing your work effectively
- Occurs in the context of a very high workload or non-supportive work environment (Beaton & Murphy, 1995)
Compassion Fatigue-Secondary Traumatic Stress

• May occur suddenly in the context of direct exposure to extremely or traumatically stressful events
• More rarely occurs in the context of indirect or vicarious exposure to extremely or traumatically stressful events
• Symptoms are rapid in onset and are usually triggered by an event; similar to post-traumatic stress syndrome
Secondary Traumatic Stress

• Potentially causes a disruption in our cognitive schema-or what we have come to know and believe to be true about the world-and creates havoc
  • Disrupts our ability to experience trusting, intimate relationships
  • Disrupts our sense of personal safety in the world
  • Disrupts our sense of self-esteem
  • Disrupts our sense of control
Assessment of Secondary Traumatic Stress, Vicarious Traumatization, and Cognitive Schema in Emergency Department Nurses

Nicole Wittemeyer
Ann Ramdass-Hogue
Dr. Jeanne-Marie Havener, Ph.D.
Hartwick College
Research Goal

• To identify a pattern of beliefs that may be predictive of secondary traumatic stress disorder or vicarious traumatization in ED nurses
Method

• Recruited 15 emergency department nurses from each of three New York hospitals

• Administered five self-report surveys:
  • Demographic Questionnaire
  • Secondary Traumatic Stress Scale (STSS)
  • Interpersonal Reactivity Index (IRI)
  • Trauma and Attachment Belief Scale (TABS)
  • Professional Quality of Life Scale (ProQOL)
Results

• 46.7% had elevated secondary traumatic stress symptoms
• 20% considered at risk for compassion fatigue
• 40% scored above average for burnout
• 26.7% displayed above average overall cognitive schema disruptions
Results

• Most instances of disruptions were found in:
  • Other-Safety (26.7%)
  • Other-Control (26.7%)
  • Self-Intimacy (26.7%)
  • Other-Esteem (26.7%)

• Average disruption scores were slightly higher than a sample of trauma therapists

• Dissatisfaction with coping resources available was related to greater distress, burnout, and schema disruption
Common Negative Reactions
(Figley, 1995; Saltson & Figley, 2003)

• Cognitive-confusion, disorientation, difficulty concentrating, worry, self-blame, intrusive thoughts and flashbacks
• Emotional-shock, sorrow, grief, sadness, fear anger, numbness, irritability, guilt, shame, ahedonia, reactivity
• Social-avoidance and withdrawal reactions, interpersonal conflict, intense reactions to trauma and loss
• Physiologic-fatigue, headache, muscle tension, stomach ache, increased heart rate, exaggerated startle response, difficulties sleeping, hypervigilance
Positive Reactions

• Enhanced appreciation that family and friends are precious and important
• A well-developed sense of mastery
• Shift expectations and priorities to focus more on what is of value to you
• Increased commitment to self, family, friends, and spiritual beliefs/faith
Conclusions

• Unable to identify a predictive pattern in cognitive schema disruptions

• Significant amount of E.D. nurses showed disruptions in beliefs about self and others

• Lack of satisfaction in support and coping assistance resources is a major factor
Conclusions

• Unable to identify a predictive pattern in cognitive schema disruptions

• Significant amount of E.D. nurses showed disruptions in beliefs about self and others

• Lack of satisfaction in support and coping assistance resources is a major factor

• ED nurses need to develop protective coping strategies to prevent compassion fatigue
Fatigue and Compassion

- Workers with high workloads, stressful work, or who score higher on burnout indexes have shorter sleep times.
- As well, they report more frequent sleep arousal, greater sleep fragmentation, more wake time after sleep onset, lighter sleep, and less deep sleep.
Fatigue Management
Recommendations

• “...to reduce error-producing fatigue, state regulatory bodies should prohibit (nursing) staff from providing patient care in any combination of scheduled shifts, mandatory overtime, or voluntary overtime in excess of 12 hours in any given 24 hour period and in excess of 60 hours per 7 day period” (IOM, 2004, p. 237).
Joint Commission

• “...the practice of extended work hours contributes to high levels of worker fatigue and reduced productivity...fatigue increases the risk of adverse events, compromises patient safety, and increases the risk to personal safety and well-being.” *(Sentinel Event Alert, Issue 48, December 14, 2011)*
Recommendations

• Limit scheduled shifts to 12 hours or less in a 24 hour period
• Increase awareness that fatigue varies across shifts and consider this when developing staffing schedules
• Strongly recommend adequate rest to be obtained between shifts (i.e. 10 hours after an 8-hour shift and 12 hours after a 12-hour shift)
• Encourage staff to schedule time for breaks and meals. Management must put a structure in place that allows this to occur.
• Avoid shift rotation. If necessary to rotate shifts, facilitate shifts with forward rotations (morning to night).
• Educate staff on personal responsibility to not work when too fatigued
• Encourage state and national funding agencies to support study of innovative work schedules.
Sleep Hygiene

- Avoid napping during the day
- Avoid stimulants
- Exercise; but not within 4 hours of bedtime
- Avoid eating meals before bedtime
- Take a warm bath or shower
- Ensure adequate exposure to natural daylight
- Establish a regular relaxing bedtime routine
- Associate your bed/space with sleep
- Make sure the sleep environment is pleasant and relaxing
- Use earplugs or “white noise” to block out unwanted noise
- Maintain a comfortable temperature 54-75 degrees
- Use light blocking curtains
Things to Do Each Day  
(B. Hudnall Stamm, Higson-Smith, Hudnall, & H. E. Stamm, 2009)

• Get enough sleep
• Get enough to eat; eat the “right” things
• Exercise in moderation
• Establish a routine
• Schedule pleasurable activities
• Laugh!
• Journal

• Focus on what you do well
• Make “to do” lists
• Give yourself permission to make mistakes and learn from your mistakes
• Pray, meditate, or relax
• Join a support group
• Seek counseling
Learn to Switch on and Switch Off

1. Switching is a conscious process. Talk to yourself as your switch.
2. Use images that make you feel safe and protected (switch off) or that make you feel connected and cared for (switch on)
3. Find rituals that help you to switch as you start and stop work
4. Breathe slowly and deeply to calm yourself when you start a tough job.