

# MILESTONES

## in *Medical Education*

### From the Editor

## “Milestones in Medical Education” Newsletter Turns One



This issue of “*Milestones in Medical Education*” marks the one year anniversary of the Newsletter. Over the past year, MCH Department of Medical Education has achieved several academic milestones through residents and fellows’ achievements, training programs achievements, and faculty achievements. My heartfelt thanks to everyone who contributed to the successes from Medical Education Staff who make sure that the day-to-day work is done, to the faculty members who serve as excellent role models for our trainees, to the training program directors whose guidance and leadership helped shape and achieve the goals and vision that Medical Education Department has for our trainees.

As we look forward to a new 2012 year, “*Milestones in Medical Education*” Newsletter promises to continue to be the vehicle that brings communication, information sharing, highlights of achievements, and milestones. For the upcoming 2012 year, the Newsletter will bring you education,

covering topics of interest to faculty and trainees in Medical Education: A new column is added this year to every issue; the “*Milestones in Faculty Development*”. This column will feature a topic of interest to faculty in UME, GME, or CME. In addition to being a means of communication and recognition; the Newsletter is a vehicle for information sharing and teaching... to quote a Chinese Proverb: “*Give a man a fish and you feed him for a day. Teach a man to fish and you feed him for a lifetime*”

We will continue to strive to achieve excellence in Medical Education... We owe it to our learners and our faculty as well... Looking forward to another year of continued successes and reaching new heights and new milestones for MCH... This is only possible through our collective team efforts... so... THANK YOU!!!

Rani S Gereige, MD, MPH



**HAPPY NEW YEAR**



## Milestones in Faculty Development Focus on Sleep and Fatigue

**NEW!!**

### Introduction

Acute and chronic sleep loss, whether partial or complete, substantially impairs physical, cognitive, and emotional functioning in human beings. In addition, the influence of circadian physiology dictates both that wakefulness and alertness are for the most part at optimal levels during daylight hours, and that sleepiness is maximized during the night.

Modern society expects performance and productivity on a 24-hour basis. This need for round-the-clock operations in many spheres, including healthcare, often assumes precedence over the basic physiologic principles governing sleep and wakefulness. In particular, the long continuous shifts, reduced opportunities for sleep, and minimal recuperation time traditionally experienced by medical students and house staff during training, and frequently by physicians in practice as well, impact their work, their health and well-being, and the quality of their educational experience. In response to such concerns,

the ACGME in 2001 charged its Work Group on Resident Duty Hours and the Learning Environment with developing a set of recommendations regarding common requirements for resident duty hours across accredited programs in all medical specialties.



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## Milestones in Faculty Development (Cont'ed)

### Focus on Sleep and Fatigue

#### What do We Know About the Physiology of Sleep?

- **Non-REM sleep** period of relatively low brain activity during which the regulatory capacity of the brain is actively ongoing and in which body movements are preserved. Non-REM sleep is further divided into:
  - ◇ **Stage 1** sleep (2 - 5% of total sleep time) occurs at the sleep-wake transition and is often referred to as "light sleep"
  - ◇ **Stage 2** sleep (45 - 55%) characterized by bursts of rhythmic rapid EEG activity called sleep spindles (fluctuating episodes of fast activity) and high amplitude slow wave activity called K-complexes
  - ◇ **Stages 3 and 4** sleep (3 - 23%) is known as "deep" sleep, slow wave sleep, or delta sleep. The highest arousal threshold (most difficult to awaken) occurs during Stages 3 and 4 sleep. Delta sleep is generally considered the most restorative stage of sleep, and one which tends to be preserved if the total amount of sleep is restricted. The relative percentage of delta sleep is also increased during the recovery sleep that follows a period of sleep loss.
- **REM sleep** (20 - 25%; four to six episodes per night) is characterized by paralysis or nearly absent muscle tone (except for control of breathing), high levels of cortical activity (low-voltage, mixed-frequency EEG) that are associated with dreaming, irregular respiration and heart rate, and episodic bursts of phasic eye movements that are the hallmark of REM sleep.

#### Sleep Requirements:

Optimal sleep need varies among individuals. Sleep experts agree that the adult sleep requirement is between **6-10 hours of sleep per 24-hour period**, with the majority of individuals requiring approximately **eight hours** of sleep per day. When adults get less than five hours of sleep over a 24-hour period, peak mental abilities begin to

decline. Although in experimental settings adults who get four hours of sleep can function reasonably well for short periods of time (two to three days), performance of tasks requiring sustained attention is still clearly sub-optimal, even in the short run.

#### Sleep Deprivation:

With decreased sleep, higher-order cognitive tasks are affected early and disproportionately. Tests requiring both speed and accuracy demonstrate considerably slowed speed before accuracy begins to fail. Sleeping less than seven hours per day can result in a **sleep deficit**. Chronic partial restriction of sleep of six hours or less per night produces cognitive performance deficits similar to that seen following total sleep deprivation. Chronic loss of sleep has also been shown to have adverse effects on metabolic and endocrine function. Therefore, it is important to get an adequate amount of sleep (seven to nine hours) per night for several days prior to anticipated sleep loss.

#### Impact of Sleep Deprivation:

##### Neurobehavioral effects of sleep loss

- Shortened voluntary and involuntary sleep latencies
- Sleep instability: Microsleeps intrude into wakefulness
- Behavioral lapsing (errors of omission)

- False responses (errors of commission)
- Time-on-task decrements (Fatigue)
- Cognitive speed/accuracy trade-off
- Learning and recall deficits
- Decline in working memory and related executive functions



#### The Impact of Fatigue:

Fatigue resulting from an inadequate amount of sleep or insufficient quality of sleep over an extended period can lead to a number of problems, including:

- ◆ 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

#### Sleep Deprivation is Cumulative!!!

- \* <6 hours x 5 nights = 48 hours continuous
- \* 1 night no sleep = 30% decrease in cognition
- \* 2 nights no sleep = 60% decrease
- \* 28 hours no sleep = driving with 0.1 BAL
- \* Post-call pediatrics residents = 0.04 BAL
- \* Post-call residents = 2.3 x increased risk of motor vehicle crashes

*Medina, Brain Rules, p 162; Comondore, BCMJ 50:10;560-4*





**“Fatigue and its role in medical errors are now regarded as a challenge to providing quality medical training and care”**



**Actions Suggested by The Joint Commission**

**For all organizations:**

1. Assess your organization for fatigue-related risks (assess off-shift hours and consecutive shift work, and a review of staffing and other relevant policies)
2. Patient hand-offs are a time of high-risk – especially for fatigued staff – assess your organization’s hand-off processes and procedures
3. Invite staff input into designing work schedules to minimize the potential for fatigue.
4. Create and implement a fatigue management plan that includes scientific strategies for fighting fatigue. These strategies can include:
  - Engaging in conversations with others (not just listening and nodding)
  - Doing something that involves physical action (even if it is just stretching)
  - Strategic caffeine consumption (don’t use caffeine when you’re already alert and avoid caffeine near bedtime)
  - Taking short naps (less than 45 minutes)

(These strategies are derived from studies conducted by the National Aeronautics and Space Administration (NASA). The NASA studies stress that the only way to counteract the severe consequences of sleepiness is to sleep.)
5. Educate staff about sleep hygiene and the effects of fatigue

- on patient safety. Sleep hygiene includes getting enough sleep and taking naps, practicing good sleep habits (for example, engaging in a relaxing pre-sleep routine, such as yoga or reading), and avoiding food, alcohol or stimulants (such as caffeine) that can impact sleep.
6. Provide opportunities for staff to express concerns about fatigue.
  7. Encourage teamwork as a strategy to support staff who work extended work shifts or hours and to protect patients from potential harm. For example, use a system of independent second checks for critical tasks or complex patients.
  8. Consider fatigue as a potentially contributing factor when reviewing all adverse events.

**Refs:**

- *SAFER, American Academy of Sleep Medicine*
- *The Joint Commission Sentinel Event Alert; December 14, 2011*

**Recognizing the signs**

- \* Irritability
- \* Eyes closing
- \* Nodding head
- \* Yawning
- \* Trouble focusing
- \* Memory lapses

**Residents who work traditional schedules with recurrent 24-hour shifts:**

- Make **36%** more serious preventable adverse events than individuals who work no more than 16 consecutive hours
- Make **5X** as many serious diagnostic errors
- Have **2X** as many on-the-job attentional failures at night
- Experience **61%** more needlestick and other sharp injuries after their 20th consecutive hour of work
- Experience a **1.5 to 2 SD** deterioration in performance relative to baseline rested performance on both clinical and non-clinical tasks
- Report making **300%** more fatigue-related preventable adverse events that led to a patient’s death

*Source: Joint Commission Journal on Quality and Patient Safety; November 2007*

### Healthy Sleep Habits

- ◆ Go to bed and get up at about the same time every day.
- ◆ Develop a pre-sleep routine.
- ◆ Use relaxation to help you fall asleep.
- ◆ Protect your sleep time; enlist your family and friends!
- ◆ Sleeping environment:
  - ◇ Cooler temperature
  - ◇ Dark (eye shades, room darkening shades)
  - ◇ Quiet (unplug phone, turn off pager, use ear plugs, white noise machine)
- ◆ Avoid going to bed hungry, but no heavy meals within 3 hours of sleep.
- ◆ Get regular exercise but avoid heavy exercise within 3 hours of sleep.

### Surviving the Night Shift / Nigh Float Work

- Protect your sleep.
- Nap before work.
- Consider “splitting” sleep into two 4 hour periods.
- Have as much exposure to bright light as possible when you need to be alert.
- Avoid light exposure in the morning after night shift (be cool and wear dark glasses driving home from work).

## Milestones in Professionalism & Humanism Residents in the Spotlight—360 Degrees Evaluation



### Parents' Compliments

Several compliments were received in the past two months that highlight the professional and humanistic behavior of many of our residents:

**Karen Segal, DO (PL1)**



PL1 resident Dr. **Karen Segal** received a glowing compliment from a patient's family. The family wrote: **“Dr. Segal is the epitome of a great physician...”** **“... we are blessed to have Dr. Segal play such an important role we will always be grateful to MCH for having one of the best physicians if not the BEST on your staff...”**. Congratulations

Karen on your professional display of the MCH Way.



**Eda-Cristina Abuchaibe, DO (PL2)**

**Dr. Cristina Abuchaibe** received a compliment from a patient's family for going the extra mile in her patient care. The family mentioned that **“Dr. Abuchaibe called to check on us when she was not even working”**. Keep up the great work Cristina.

**Stephanie Urban, DO (PL1)**



PL1 Resident **Stephanie Urban** received a parent compliment for her compassion, professionalism, and display of the MCH Way... Congratulations Stephanie !!!



### ***Milestones in ACGME Accreditation***

## **MCH Pediatric Surgery Fellowship Receives Initial ACGME Accreditation**

**M**CH Pediatric Surgery Fellowship Program; under the leadership of Dr. Cathy Bunweit, underwent a very successful site visit from the ACGME. The fellowship program received Initial Accreditation for 3 years effective 07/01/2011 until 11/01/2014 with **NO CITATIONS**.

The ACGME Review Committee "commended the program for its demonstrated substantial compli-

ance with the ACGME requirements for Graduate Medical Education without citations".

**T**he MCH Pediatric Surgery Fellowship Program already filled its position for July 2012 and is accepting applications through the ERAS system for July 2013 and is participating in the National Residency Matching Program (NRMP). **CONGRATULATIONS** to the MCH Division of Pediat-

ric Surgery and its faculty for this major milestone.



### ***Milestones in Recruitment***

## **MCH Medical Education Busy Recruitment Season**

### ***T'is The Season...***

**T**he Pediatric and osteopathic Pediatric residency Programs started the recruitment season. ERAS opened in September 2011. MCH started interviews for residency in November 1, 2011. Application deadline was December 1, 2011. We would like to thank the Recruitment Committee and the Faculty members who take time of their schedule to participate in the interviews this year.

**M**CH experienced a large applicant pool this year. **Total number of applications received: 2037 (481 US Graduates)**. The goal is to interview around 230 applicants for a PL1 class of 28 positions.

### ***Fellowship Recruitments***

**T**he MCH Pediatric Critical Care Medicine fellowship filled both of its positions through the match. Nationally, 132 out of a total of 152 positions (87%) were filled through the match, 32% of which as filled by foreign graduates.

**O**ther MCH Fellowships who filled their positions for 2012 include: Adolescent Medicine, Pediatric Surgery, Clinical Neurophysiology, Pediatric Urology, Pediatric Radiology, and Pediatric Cardiology.

**S**tay tuned for future newsletters for a complete listing of the MCH residents and fellows for 2012 (after the residency match)



### ***Milestones in Community Service***

## **MCH Residents Spread Holiday Cheers to Neglected Teens**

**T**his Holiday Season, the MCH Pediatric Residents spread some holiday cheers to neglected and homeless teens at the Miami Bridge Youth and Family Services Shelter. It is an emergency shelter for high risk teens ages 13-17 years who are either homeless, out of Juvenile Detention Centers, or victims of neglect. It is one of two emergency shelters in Miami for teens.

**T**he residents dropped off gifts, cloth-

ing, toiletries, and videogames. Many of the residents donated their Target gift card given to them by the Hospital. It is one more way that Humanism and Professionalism extends beyond the walls of the hospital. It is one more way to make use of the MCH Way values to advocate for underserved and neglected teens in this holiday season.



## Milestones In Medical Knowledge Residents' Winners of the Block Quiz

The Chief Residents implemented this academic year a Block Quiz that tests Residents' Medical Knowledge of key elements of the didactic core lectures and Grand Rounds from the Block before. Congratulations to the following Block Quiz Winners!!!!

### Block 5 Quiz Winners

#### PL1 Class



Rossana Sanchez, MD



Sakil Kulkarni, MD

#### PL2 Class



Joseph Casadonte, MD



Andrea Ontaneda, MD

#### PL3 Class



Muaz Alabd Alrazzak, MD



Sunil Kumar, MD

## Milestones In CME News (Coming up in early 2012) MCH Medical Education and Telehealth Bring CME to MCH Outreach Facilities

MCH Department of Medical Education firmly believes in the use of technology in Medical Education. Starting early 2012, MCH Outreach facilities will physicians and staff be able to dial-in on demand to the MCH Main Auditorium and attend

CME Events such as the weekly Pediatric Grand Rounds. Medical Education and Telehealth Departments are working together on making this a reality. An announcement will be made once the process is tested and ready... STAY TUNED!!!

MCH CME Calendar can be viewed at:

<http://cmetracker.net/MCH/>

## Milestones in CME News Save Your MCH CME Transcript in 3 Easy Steps

As the year 2011 is coming to an end, consider retrieving and saving your 2011 CME transcript of the events sponsored by MCH that you attended in 2011. Our CME electronic web-based system has your MCH CME credits since January 1<sup>st</sup>, 2011.

**STEP 1** – Go to <https://cmetracker.net/MCH/Catalog>

**STEP 2** – Click on “My Transcript” from the Blue Banner

**STEP 3** – Enter your email address, password, and the date range (January 1 2011 – December 19, 2011) – by clicking on the calendar and click **Sign In**

Your transcript for the date of event attended, event title, the credit hours will appear in a pdf document.

Click on **File** → **Save as** → and save the document on your computer for your CME records. The online data is always there for your reference as well. Questions? Email us at: [cme4mch@mch.com](mailto:cme4mch@mch.com)

Event Date	Event Name	Type Credit	Credit
1/14/2011	Grand Rounds- Family Violence	AMA PRA Category 1 Credits(s)™	2.00
1/21/2011	Grand Rounds- HIV Update	AMA PRA Category 1 Credits(s)™	1.00
1/25/2011	Grand Rounds- Cybersecurity	AMA PRA Category 1 Credits(s)™	1.00

**PPGC/Board Review  
Early Bird!!! Online Registration is Now  
Opened...**

The MCH 15th Annual Pediatric Board Review approved for Part 2 MOC will be held **February 9-12, 2012** and the 47th Annual Pediatric Post-Graduate Course (PPGC) General Session will be held **February 13-17, 2012** at the Miami Downtown Intercontinental Hotel. Online registration is now opened at [www.ppgcpip.com](http://www.ppgcpip.com)

**To Teach Is to Touch a Life Forever**

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**Medical Education Birthdays**



**GME Welcomes New  
Babies to the Family**



**Dr. Sunil Kumar Saharan** became the proud father of a beautiful baby boy Samarth on November 11th ,2011

<b>JANUARY</b>	
Enrique Aregullin Eligio	2
Daniela Arroyo Larrea	2
Lyndsay Weyers	4
Eda-Cristina Abuchaibe	4
Maan Alkhatib	5
Erik Gonzalez	7
Kamal Sharma	11
Ana Carolina Victoria	18
Malika Oglesby	23
Gabriella Saca	23
Jorge Galvez	25
Karina Bernetti	26
Jose Vargas Loayza	28
Shayan Vyas	29

<b>FEBRUARY</b>	
Grace Toledo	1
Andrea Ontaneda	9
Andrew Huang Pacheco	11
Beatriz Cunill	13
Isamar Sosa	15
Salina Mostajabian	17
Dario Vallarino	21
Michael Lopez	24
Rosa Gomez De Jesus	25

