

# Messenger

November 2018

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**Michigan Society for Respiratory Care** Chartered Affiliate of the American Association for Respiratory Care

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## 60th Spring Conference Highlights

We kicked off the Wednesday pre-conference with a management symposium which was very well received and included a respiratory manager panel discussion. The keynote on Thursday provided us with some strategies for empathy. Other great lecture topics included ventilating ARDS patients, techniques for quick precepting, and surviving hurricane Katrina in the hospital. Also, six research posters were presented. Thursday closed with Sputum Bowl finals and the dance. For the 11th year in a row, Macomb Community College won and will be headed to AARC Congress in Vegas in December. Congratulations Brochoprovocators! Friday keynote discussed working with millennials. Some hot topics for Friday included understanding ECMO, NAVA for neonates, ventilator waveforms, and human trafficking. Overall everyone had a pretty good time learning and networking. See you next year in Kalamazoo!

## The Spring Conference Committee



# The Bronchoprovocators Win the 40<sup>th</sup> Annual MSRC Sputum Bowl!

Submitted by David Panzlau, MA, RRT-ACCS

Congratulations to the Bronchocprovcators on winning the 40<sup>th</sup> MSRC Sputum Bowl. The team from Macomb Community College was able to avenge a nail-biting loss in the preliminaries to claim the title with a decisive win in the Finals over Carpe the Airway from Henry Ford CC. Rounding out the teams which made it to the Final Four were Jackson Silver from Jackson CC and Just Bag Em from Henry Ford CC. Both teams were awarded a 3<sup>rd</sup> place finish.

There were 14 teams in this year's double elimination contest who proudly represented the following colleges. Henry Ford CC, Jackson CC Kalamazoo Valley CC, Macomb County CC, Monroe CC, Mott CC and Muskegon CC. Pictures of all the teams taken by our expert photographer, Mitch Wells can be found in the picture gallery. We appreciate the students for their support for the Bowl as well as the faculty at each of those schools.

Interestingly enough, both teams which reached the Finals match came to the practice session held the night before the preliminaries began on Wednesday. This certainly speaks to their dedication in preparing for the matches and taking advantage of an opportunity to warm up for the competition.

A shout out to the Jeanine "Ginger" Steinaway for coordinating the "best damn Sputum Bowl" for too many times to remember. Congratulations to Liz Prybys for her outstanding moderator debut with such calm and control. She handled those chores like a veteran who had been doing it for a much longer period of time. Which brings us to Rick Zahodnic and Nick Prush who were masterful at firing nearly 600 questions which were used over the 25 games that were played over the two days. Kathy Gurin expertly kept the time and score throughout all of those matches. The judges for Finals night were Brian Wicker, Doug Mauer, and Spencer Hanson . We truly are fortunate to have such dedicated individuals in making our bowl the best.

The SB committee placed an added emphasis on using questions which reflected content that is likely to appear on the NBRC credentialing exams which many if not all of the participants will be experiencing the joy of in a short time or maybe a year if competing as a first-year student team. There were some new additions to the question types as well. The use of anagrams, in which letters are rearranged to create a silly phrase but give a clue to the correct answer. For example, pig toilets was an anagram for epiglottis which were the answer to an airway management question. Also, we had some VIP moderators who posed questions in a video format. So, thanks to Kathy Gurin, Carl Haas, Andy Weirauch, President, Valerie Stephenson-Willis and President-Elect Mike Hess. The committee has made a decision for future bowls to include mainly questions which would be helpful in preparing candidates for the NBRC credentialing exams and less on trivial minutia.

The halftime show "Are You Smarter Than a Sputum Bowler?" was comprised of 15 trivia questions in which the audience got an opportunity "to show what they know" about Las Vegas. The audience response clickers were distributed by Paula Wood and Celeste Ketels which provided an opportunity for anyone wanting a chance to win a fabulous prize. The AARC Congress will be held there December 4<sup>th</sup> – 7<sup>th</sup>, 2018. The overall winner was Helen Grim from Mott Community College, 2<sup>nd</sup> place went to

Shawn Spalding from University of Michigan – Flint and 3<sup>rd</sup> place Ashley Hall, a student representing Muskegon Community College. Congratulations to the winners and the SB committee is expecting to see them compete next year as practitioners in next year’s game.

Congratulations to The Bronchochoprovocators (Steven Monroe, Marie Angst, Jason Gates and Jesse St. Louis) from Macomb Community College who will be representing Michigan in the AARC National Sputum Bowl in “Lost Wages”. The smart money is on them bringing back the first student championship title to the “Mitten”.

Be sure to check out the picture collection from this year's Bowl. You will be able to find your favorite team and their clever namesake.





# Do You Really Need More Sleep?

Gary Jeromin MA RRT LRT

Myths and confusion regarding sleep, have challenged our understanding since the beginning of time. Even though there is much scientific evidence regarding the physiology of sleep, many individuals still regard the need of sleep as a minor thing. The National Sleep Foundation through their annual “Sleep America” survey have accurately identified current sleep patterns. It seems all age groups from children to adults have cut back on the amount of sleep that they get each night. In figure 1, 8% of children 6-11 years old average slept 7 hours or less. 29% of Children 12-14 years of age slept 7 hours or less. Finally, 54% of Teenage children 15-17 years old slept 7 hours or less.

## Key Findings: *Child’s Sleep Habits* Total Sleep Time

Parents were asked to estimate how much sleep their child obtained at night. Approximately 45% of all children obtained 9 hours or more of sleep per night. When looking at sleep duration by age group, shorter sleep is more common at older ages. Over half (58%) of 15-17 year olds sleep 7 hours or less per night and only 10% sleep 9 hours or more. Among 6-11 year olds, 8% sleep 7 hours or less per night and 23% sleep only 8 hours per night.

Exhibit 2. Sleep duration on school nights by age group.

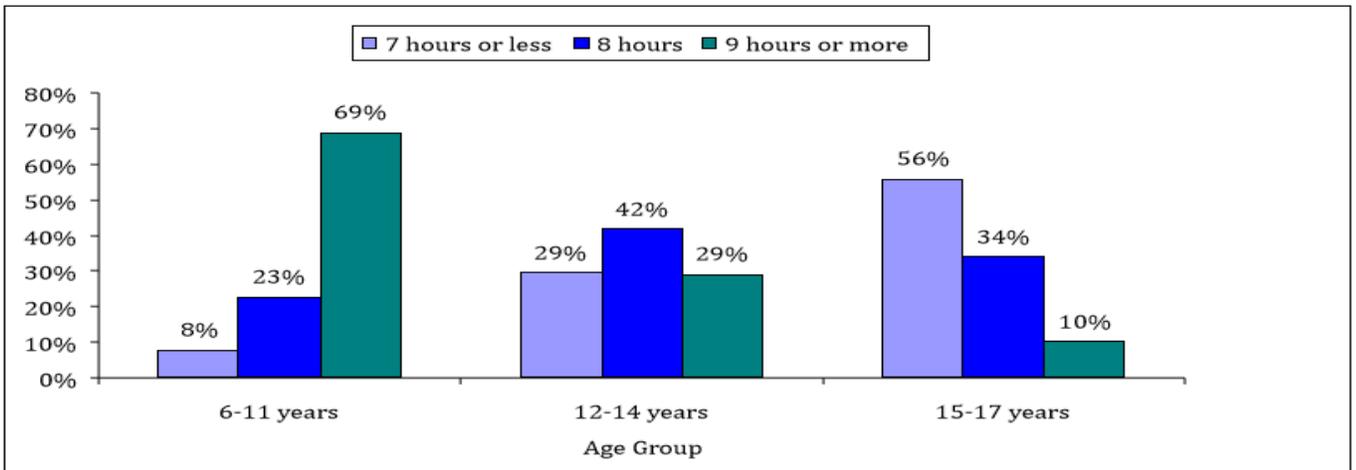


Figure 1

When adults around the world responded with self-reported data, a similar pattern emerged (Fig 2). The 21% of individuals from the United States reported sleeping 6 hours or less each night. Even on weekends 12% reported sleeping less than 6 hours each night.

## Sleep Habits

All respondents were asked how long they typically sleep on both a typical workday or weekday and a typical non-workday.

- Notably, respondents from the United States and Japan report significantly less sleep on workdays than those in Canada, Mexico and the United Kingdom.
- All countries sleep roughly 45 minutes longer on non-workdays than workdays.

Hours of Sleep Workdays						
	USA (B)	Canada (C)	Mexico (D)	United Kingdom (E)	Germany (F)	Japan (G)
<b>Workdays</b> n =	(251)	(250)	(250)	(250)	(250)	(250)
Less than 6 hours	21% <sub>CDF</sub>	7%	11%	18% <sub>CDF</sub>	10%	19% <sub>CDF</sub>
6 hours to less than 7 hours	32 <sub>CDE</sub>	23	18	21	26 <sub>D</sub>	47 <sub>BCDEF</sub>
7 hours to less than 8 hours	25	38 <sub>BDC</sub>	27	30	35 <sub>BDC</sub>	24
8 hours or more	21 <sub>G</sub>	29 <sub>G</sub>	35 <sub>BG</sub>	30 <sub>BG</sub>	28 <sub>G</sub>	10
Don't know/Refused	1	3 <sub>EF</sub>	10 <sub>BCEF</sub>	<1	<1	-
<i>Average hours slept</i>	<i>6h 31m</i>	<i>7h 3m<sub>BEG</sub></i>	<i>7h 6m<sub>BEG</sub></i>	<i>6h 49m<sub>BG</sub></i>	<i>7h 1m<sub>BG</sub></i>	<i>6h 22m</i>

Base = Total sample  
 Letters indicate significant differences at the 95% confidence level.  
 Q5

Hours of Sleep Non-Workdays						
	USA (B)	Canada (C)	Mexico (D)	United Kingdom (E)	Germany (F)	Japan (G)
<b>Non-Workdays</b> n =	(251)	(250)	(250)	(250)	(250)	(250)
Less than 6 hours	12% <sub>CDF</sub>	5%	4%	12% <sub>CDF</sub>	6%	10% <sub>CD</sub>
6 hours to less than 7 hours	14	11	12	15 <sub>F</sub>	9	23 <sub>BCDEF</sub>
7 hours to less than 8 hours	24	22	18	19	25 <sub>D</sub>	29 <sub>DE</sub>
8 hours or more	49 <sub>G</sub>	59 <sub>BG</sub>	56 <sub>G</sub>	53 <sub>G</sub>	59 <sub>BG</sub>	38
Don't know/Not sure/Refused	1	3 <sub>E</sub>	10 <sub>BCEF</sub>	<1	1	-
<i>Average hours slept</i>	<i>7h 22m</i>	<i>7h 52m<sub>BEG</sub></i>	<i>7h 46m<sub>BEG</sub></i>	<i>7h 26m</i>	<i>8h 0m<sub>BEG</sub></i>	<i>7h 12m</i>

Base = Total sample  
 Letters indicate significant differences at the 95% confidence level.

The real proof regarding the need for sleep can be found in Figure 3 where 59% of the respondents reported that work productivity was impacted along with social life, family life, mood, intimate relations and health.

### Sleep Habits (continued)

Those interviewed were asked the impact of not getting enough sleep on different aspects of their life. The percentages below represent those who stated that not getting enough sleep has an impact on the specific area of their life:

- In general, those interviewed in Japan cited not getting enough sleep has significantly less impact on certain aspects of their life as compared to the other countries interviewed.

Impact of "Not Getting Enough Sleep" - Those who say they do <u>not</u> get adequate sleep						
	USA (B)	Canada (C)	Mexico (D)	United Kingdom (E)	Germany (F)	Japan (G)
<b>Net: Any impact</b> n =	(66)	(70)	(84)	(42)	(67)	(86)
Work productivity	59%	69%	69%	69%	64%	59%
Social life or leisure activities	78 <sub>DFG</sub>	68 <sub>C</sub>	58 <sub>C</sub>	74 <sub>C</sub>	58 <sub>C</sub>	40
Family life or home responsibilities	76 <sub>C</sub>	71 <sub>C</sub>	70 <sub>C</sub>	67	66	51
Mood	84	78	85 <sub>C</sub>	86 <sub>C</sub>	87 <sub>C</sub>	71
Intimate relations	56 <sub>C</sub>	47 <sub>C</sub>	40 <sub>C</sub>	50 <sub>C</sub>	45 <sub>C</sub>	13
Health	73	66	74	67	64	62

Base= Those who say they do not get adequate sleep  
 Letters indicate significant differences at the 95% confidence level.  
 Q12

Impact of "Not Getting Enough Sleep" - Those who say they <u>do</u> get adequate sleep						
	USA (B)	Canada (C)	Mexico (D)	United Kingdom (E)	Germany (F)	Japan (G)
<b>Net: Any impact</b> n =	(181)	(174)	(164)	(206)	(181)	(164)
Work productivity	37%	44%	43%	44%	53% <sub>BC</sub>	34%
Social life or leisure activities	31 <sub>C</sub>	39 <sub>C</sub>	44 <sub>BC</sub>	41 <sub>BC</sub>	44 <sub>BC</sub>	21
Family life or home responsibilities	39 <sub>C</sub>	48 <sub>C</sub>	43 <sub>C</sub>	44 <sub>C</sub>	49 <sub>C</sub>	24
Mood	58 <sub>C</sub>	59 <sub>DC</sub>	48 <sub>C</sub>	57 <sub>C</sub>	66 <sub>DC</sub>	37
Intimate relations	24 <sub>C</sub>	30 <sub>C</sub>	24 <sub>C</sub>	28 <sub>C</sub>	26 <sub>C</sub>	13
Health	43 <sub>C</sub>	44 <sub>C</sub>	43 <sub>C</sub>	41 <sub>C</sub>	48 <sub>C</sub>	29

Figure 3

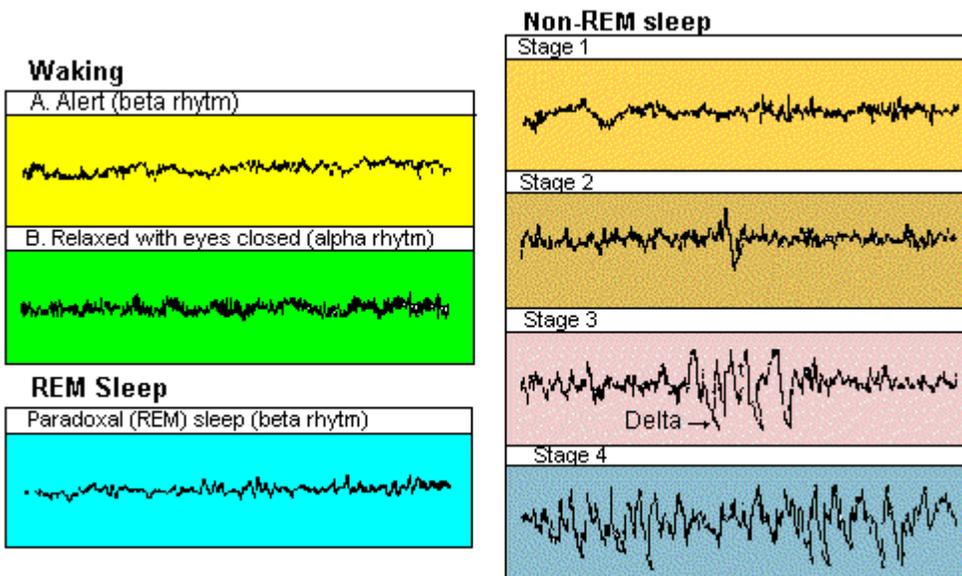
So what is sleep and why is it so important? Modern Sleep research has revealed that the body utilizes the Sympathetic Nervous system to stay awake and the Parasympathetic Nervous system for falling asleep. Each nervous system uses specific neurochemicals to operate. Sometime problems arise with the awake and sleep systems not operating correctly which can result in two common conditions: Insomnia (inability to fall asleep or stay asleep) and Narcolepsy (inability to stay awake).

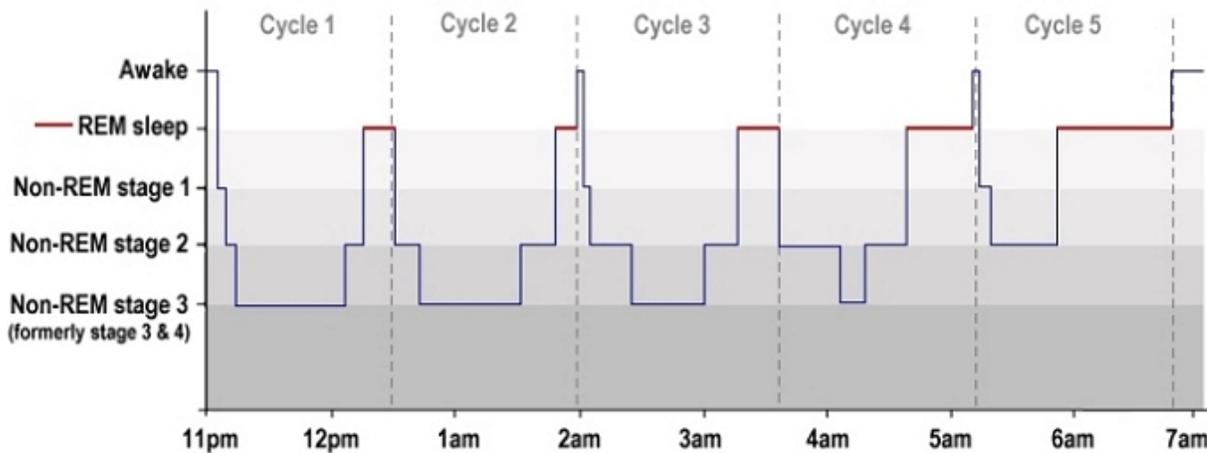
Sleep is not rest. What we call Sleep, is actually, a complex timed series of processes moderated by the neurochemicals produced within the brain. We have a biological clock and circadian rhythm that help synchronize all aspects of the sleep process. When we travel a few time-zones located East or West of us, we encounter Sleep problems related to our circadian rhythm that is based on the time zone that we left and not where we travel to.

Some of the tasks conducted during Sleep includes;

- Detoxification of the body metabolic waste (lymphatic system)
  - Detoxification of the brain \*
  - Rebuilding new tissue
  - Repairing wounds
  - Restocking the muscles with glycogen
  - Building hormones and enzymes
  - Building t-cells and other immunologic factors
  - Building red and white blood cells and platelets
  - Converting temporary memory of the day into permanent memory \*
  - Re-indexing / Consolidation of memories \*
- \*only during REM sleep**

The body uses 5 Sleep cycles during the 8 hours of sleep to accomplish these tasks (Figure 4). Each Sleep Cycle lasts 90 minutes. There are two types of components in the Sleep Cycle: NonREM and REM. NonREM sleep (80%) is regulated by the Parasympathetic Nervous System and its specific neurochemicals. REM sleep (20%) is regulated by the Sympathetic Nervous System and its specific set of neurochemicals.





There are 3 (descending) stages of NonREM sleep; NR stage 1, NR stage 2 and NR stage 3 and REM sleep.

NonREM stage 4 has recently been combined with NonREM stage 3 as so little stage 4 occurs in adults.

The frequency of the brain waves slows measurable as we transition between states. NonRem stage 1 is called twilight sleep as an individual can be easily awakened by noise, smell or light. NonREM stage 2 is a deeper sleep with our sensors sensitivity markedly reduced. Finally, NonREM stage 3, commonly called DELTA sleep is the lowest state in which our sensors to the external world are inactive. We are literally blind and deaf. It is extremely difficult to quickly awaken from this state. Body temperature, heart rate and breathing rate progressive diminish as we descend down the NonRem stages. The final activity of the NREM portion of the Sleep cycle is the transition from NonREM stage 3 to NonREM stage 2. The final portion of the Sleep Cycle is the transition from NonREM stage 2 to REM sleep. This involves switching from the Parasympathetic Nervous System to the Sympathetic Nervous System. REM sleep is commonly referred to as Dreaming. One important feature of REM sleep is the paralysis of skeletal muscle. You may recall a dream that you had where you struggled to move but could not. This is the mind sensing the muscle paralysis and weaving that sensation into the fabric of the dream. Research has shown that the REM state is essential for maintaining brain function. Rem sleep time increases with each cycle. Although REM sleep accounts for 20% of total sleep time, about 60+% occurs in the last 2 cycles. Those individuals who sleep less than 6 hours, lose the benefit of the REM sleep.

Consider that the brain creates and uses 25% of our total daily energy. The brain creates much metabolic waste. However, the brain's lymphatic system utilizes a very specialized way to drain away metabolic waste through the spinal column only during REM sleep. The brain also translates the temporary memories we create during the day to permanent memories. Much research has been done on Dreaming and the nature of dreams. Some suggest that dreams are resultant from indexing our memory association. Some feel that dreams are emotional expressions of the events of the day. Research studies have shown that the brain attempts to solve what problems we are working on during REM Sleep. Researchers have also shown that we can learn whatever material we study right before we go to sleep.

I would like to go back to the start of this article regarding the data from the National Sleep Foundation regarding our culture and the current trend to shorten our sleep patterns to accommodate our nonstop activities. I can't emphasize enough the importance of getting a full night of sleep. Patient lives rest in our precise actions, decisions, memory and assessments. There have been many studies cited by the that relate the lack of sleep with errors, accidents due to poor judgement, memory lapse and poor attention. Could medication errors, procedural error, failure to complete procedures correctly, overlooking critical patient symptoms be signs of also be signs of sleep deprivation?

*"Sleep deprivation is increasingly recognized as important concern of public health, with sleep insufficiency linked to motor vehicle crashes, industrial disasters, and medical and other occupational errors."* – Centers for Disease Control and Prevention

Sleep deprivation is a major challenge to public health concern. There are **Millions of people worldwide who are deprived of sleep. There are also many individuals working alongside of you in the hospital, making critical life and death decisions who are sleep deprived and have been for some time over many years.** Sleep deprivation is a more common problem than you think. Contrarily, the very individuals who suffer from the condition often aren't aware. Do you really need more sleep?

## Respiratory Care in the Community

Michigan Medicine's Respiratory Therapist and respiratory students from area colleges, have been busy in the community, bringing our profession to the public. The therapists and students performed simple spirometry, pulse oximetry and lung education. The first health fair was during the Ann Arbor Art Fair, we had about 2000 people. The second was held during the Research Palooza at Michigan Medicine, about 200 people came to the booth. The third was at YpsiFest in Ypsilanti, over 600 people visited the booth. The last was at Ford Field during the Men's Health Event, over ??? people visited the table.

Many people we see either do not have or are under insured. We are the only medical people they see during the year. It is very rewarding to be able to help out the public who would not be able to see a respiratory therapist if we were not at these free health fairs.



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## Upcoming Events

Please see the website – [www.michiganrc.org](http://www.michiganrc.org) – for more details on the following events.

### 2018

November 30 ..... **House Meeting** - Okemos, MI

December 4-7 ..... **AARC Congress** – Las Vegas, NV

### 2019

April 3-5 ..... **MSRC Spring Conference** – Lansing

July 20-22..... **Summer Forum** – Ft. Lauderdale, FL

#### *Questions? Address Changes?*

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#### *MSRC Editor Deadline Dates”*

October 20, 2018

March 1, 2019

July 1, 2018