

Academic Standards Committee
November 9, 2017

Adolescent Sleep, Health, and School Start Times
The National Conference
April 2017

Chuck Lambert
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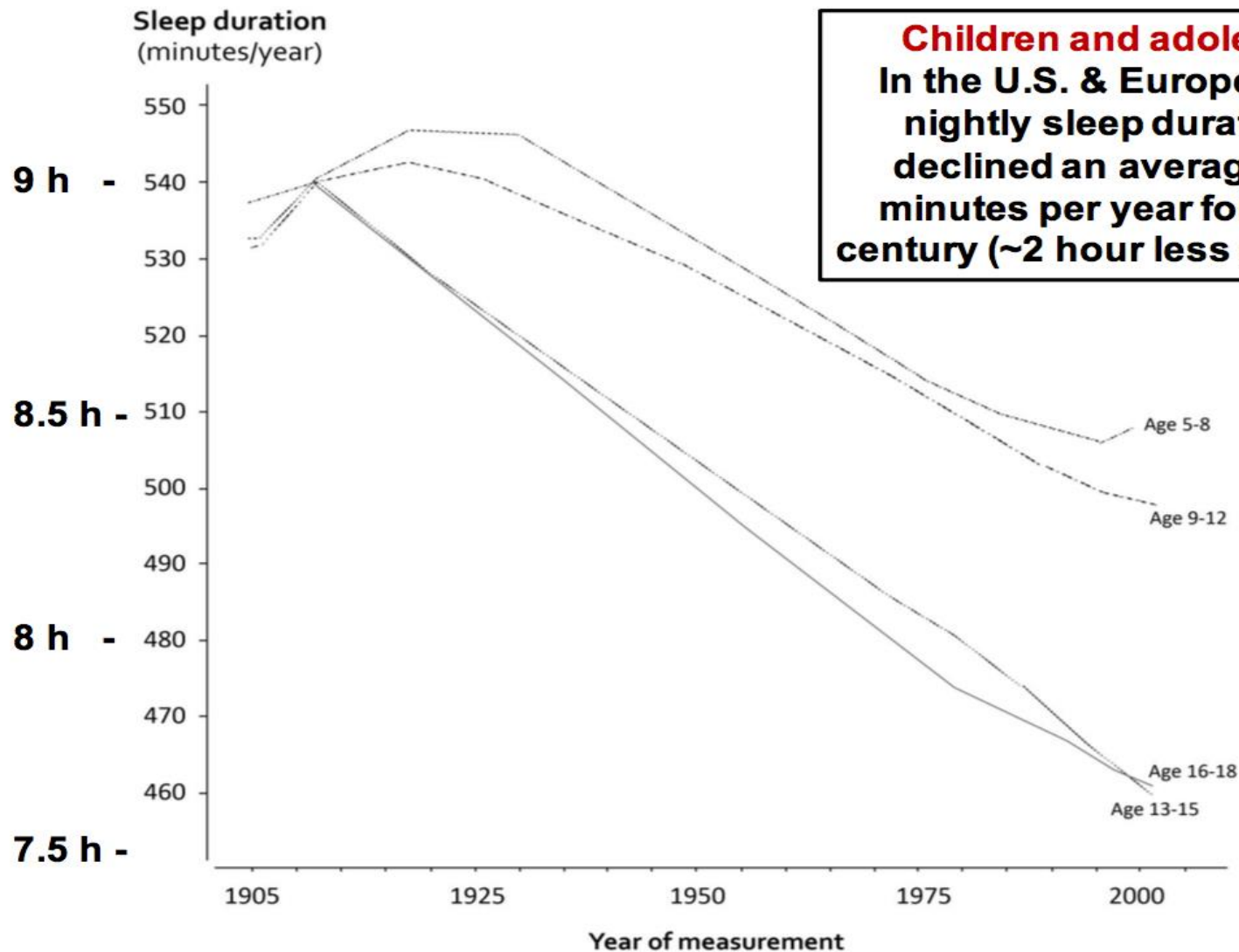
Sleep and School Start Times

Slides are from various presentations at the Adolescent Sleep, Health, and School Start Times National Conference (April 2017).

Where appropriate, the presenters name is noted at the bottom of the slide.

Sleep and School Start Times

The American Academy of Pediatrics urges middle and high schools to aim for start times that allow students to receive 8.5 to 9.5 hours of sleep a night. In most cases, this will mean a school start time of 8:30 a.m.



Matricciani LA. In search of lost sleep: Secular trends in the sleep time of school-aged children. IBOP thesis, University of South Australia, 2011.

Sleep and School Start Times

Students 16 yrs. to 18 yrs:

<5h	3%	
5h	5%	
6h	10%	
6h*	1%	
7h	19%	
7h*	4%	→42%
8h	27%	→69%
≥9h	31%	

* Age 18

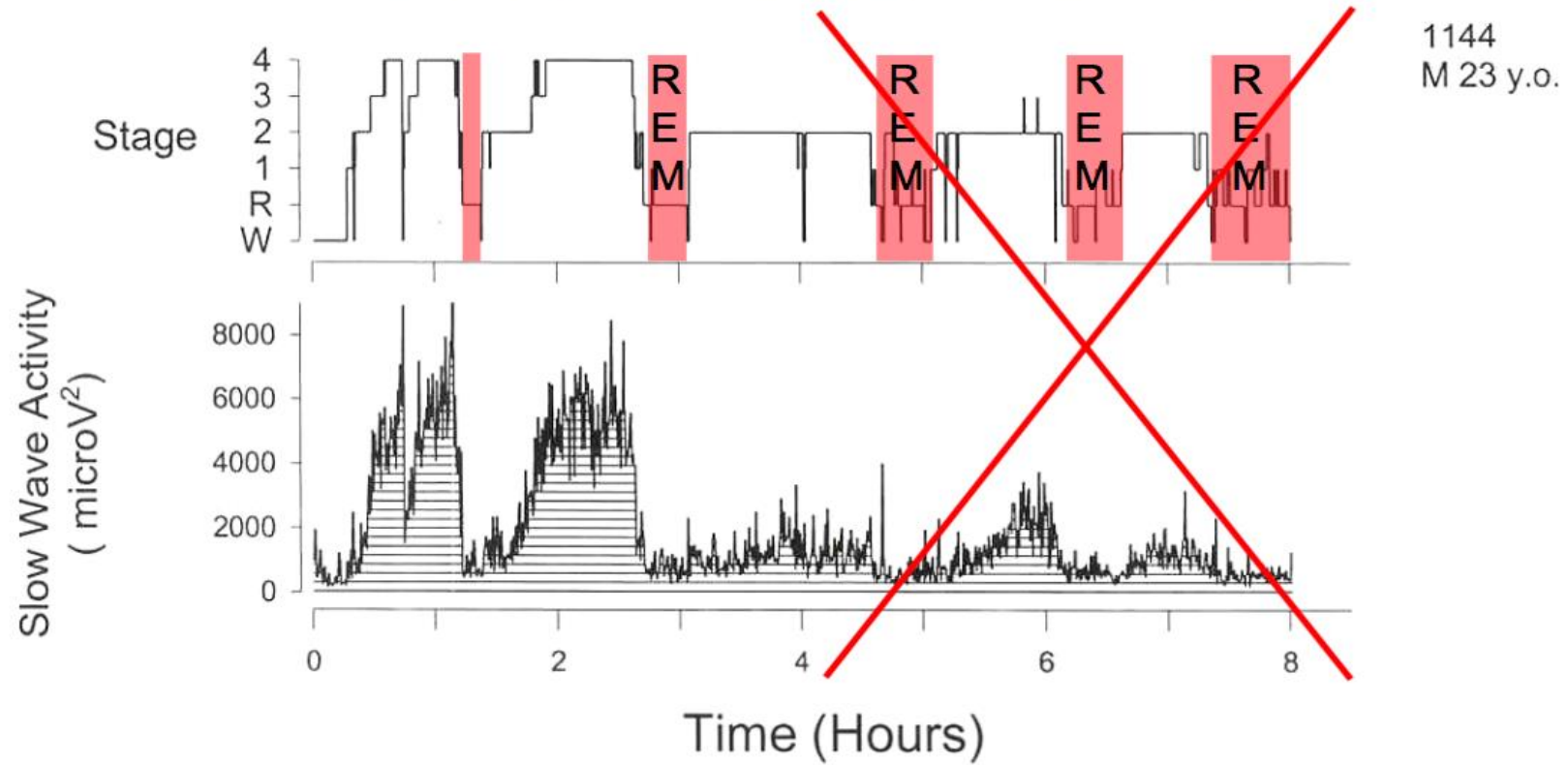
Source: Bureau of Labor Statistics. [2003-2015] American Time Use Survey Data. Available at <https://www.bls.gov/tus/>. Accessed 7/26/2016.

Sleep and School Start Times

- Melatonin = 'hormone of darkness'
- Melatonin = marks the brain's nighttime, gate for sleep
- Adolescence = later timing of melatonin
- Reduced amplitude of the circadian clock may dampen the signal for sleep

Result: late nights are favored (so, too, late mornings)

Normal Sleep has Structure



Sleep and School Start Times

An appropriate amount of sleep can lead to:

- Improved attendance
- Improved academic performance
- A decrease in car crashes
- Fewer risky behaviors (fighting, TAOD use, sexual behavior)
- Less likelihood of considering suicide
- Less likelihood of obesity
- Fewer athletic injuries
- Improvement on cognitive tasks

Sleep and School Start Times

The consequences of chronic insufficient sleep include impaired judgement, increased risk behavior, deficits in learning and problem solving, and increase risk for obesity and emotional disturbances like depression, anxiety and suicidal thoughts and behavior

Sleep and School Start Times

Adolescent sleep biology...

- The main point is that the bioregulatory factors—sleep/wake homeostasis and circadian biology—both favor a delay in the timing of sleep as adolescence progresses.
- The bottom line is: too little sleep for school days and social jet lag due to circadian and homeostatic factors.

Sleep and School Start Times

Teens and Drowsy Driving

Source: *Traffic Safety Culture Index*. Pooled data from 2012-2016. AAA Foundation for Traffic Safety.

Drove while “so sleepy you had a hard time keeping your eyes open” in past 30 days

- Licensed drivers ages 16-18: 23% Responded ‘At Least Once’
- 2% Responded ‘Fairly Often or Regularly’

Brian Tefft, AAA

Sleep and School Start Times

Mortality from car crashes decreases
by **16.5 per cent**
by an hour delay in school start time

Marco Hafner, RAND Europe

Sleep and School Start Times

Best estimates suggest drowsiness is a factor in:

- **4%** of all teen driver crash involvements
- **7%** of teen injury crashes
- **13%** of teen fatal crashes involve drowsy teen driver

Brian Tefft, AAA

Sleep and School Start Times

Each hour of sleep increases the probability of finishing high-school or attending college by about

13 percent and 9 percent respectively

Marco Hafner, RAND Europe

Sleep and School Start Times

SST Legislation Introduced in 11 US States

- California
- Florida
- Maine
- Massachusetts
- Maryland*
- Nevada
- New Jersey*
- Pennsylvania
- Utah
- Virginia
- Washington

* Bill passed

Sleep and School Start Times

Position Statements and Resolutions

- American Academy of Child and Adolescent Psychiatry
- American Academy of Pediatrics
- American Academy of Sleep Medicine
- American Foundation for Suicide Prevention
- American Medical Association
- Arne Duncan, US Secretary of Education (2013)
- Association of School Psychologists of PACenters for Disease Control and Prevention
- Connecticut Interscholastic Athletic Conference
- Education Commission of the States
- League of Women Voters, Tarrant County, TX
- Massachusetts Medical Society
- National Association of School Nurses
- National Association of Social Workers –Ohio Chapter
- National Education Association
- National Sleep Foundation
- Seattle Education Association
- Society of Pediatric Nurses

Terra Ziporyn Snider, Start Schools Later, Inc.

Sleep and School Start Times

EARLY START TIME

Rise and shine	6:00
Be at the Bus Stop	6:45
	7:00
Arrive at school	7:30
Period 1 begins	7:45
School	8:30
School	8:45
School	12:30
School ends 2:15	2:00
Sports Practice begins	3:00
Sports	4:00
Sports	4:30
Sports practice ends	5:00
	6:00
Dinner with family	6:30
	7:00
Bed time = 7 hrs. of sleep	11:00

LATER START TIME

Sleep
Sleep
Rise and shine
Be at Bus Stop
Arrive at School
Period 1 begins
School
School
School ends 3:15
Sports Practice Begins
Sports
Sports
Sports practice ends
Dinner with family
Bed time = 8 hrs. of sleep

Sleep and School Start Times

Fairfax Public Schools (189,000 students)

73 Buses and Positions

Jeffery Platenberg, Asst. Superintendent

Ratio to CR approximately 4.x buses

Sleep and School Start Times

Younger students are better able to move their bedtime forward to compensate for the earlier wake times needed to get to school compared to adolescents.

Sleep and School Start Times

Implementation Strategies for Districts

- Advisory Task Force
- Communication Plan
- Identify and Address Issues
- Do your homework –research, meetings, input sessions
- Develop a plan
- Present the plan
- Gather feedback and make modifications if necessary
- Give to decision-makers
- Go or no go

Sleep and School Start Times

Timeline Process

- Give your Task Force plenty of time to do its work
- Establish a date for Task Force report
- Typically it takes about 1 year for the Task Force to address the issues, gather input, and make its recommendation
- Board or decision authority should receive the Task Force report no later than early fall
- Decision on plan to change start time by December 31st at latest
- If decide to go forward do it for following school year

Sleep and School Start Times

Issues That Need to be Addressed –All can be overcome

- The idea of change and its impact on individuals
- Start times for other district schools
- Busing Schedules
- Staff resistance to work day schedule change
- Athletics and extra-curricular
- Zero hour issues
- Day care for younger siblings
- High School students working after school
- Financial implications

Sleep and School Start Times

Issues That need to be Addressed

- Understand the change process and how to deal with it
- When and how to get input from those who may be effected
- When to make the final decision and who makes it
- Homework and test impacts

Sleep and School Start Times

go.ted.com/wendytroxel

Sleep and School Start Times

All truth passes through three stages.

- First, it is ridiculed.
- Second, it is violently opposed.
- Third, it is accepted as being self-evident.

--Arthur Schopenhauer