

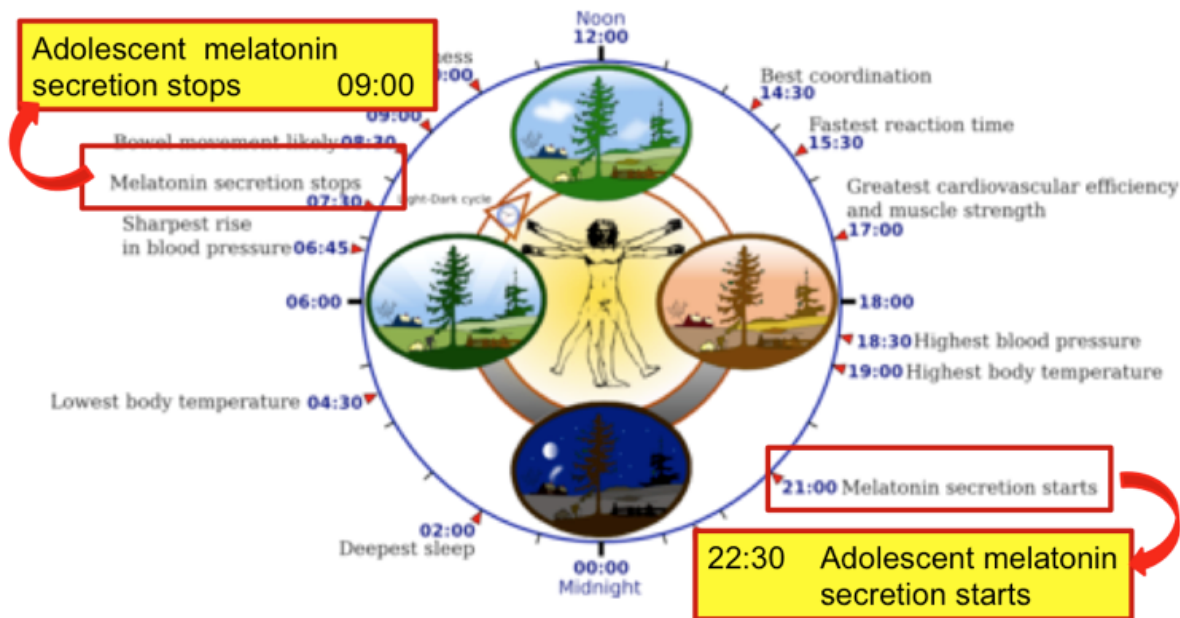
The following is the updated Q&A on late start and abbreviated Wednesdays.

Frequently Asked Questions About Later Start Times and Abbreviated Wednesdays in Saco

Adolescents require (a minimum) 8.5 to 9.5 hours of sleep per night for optimum health, and early school start times prevent teens from obtaining sufficient sleep. According to a national survey by the Centers for Disease Control & Prevention, at 7:25 am, our current Saco Middle School start time is among the earliest in the country. Our first bus pick up for SMS and TA is 6:15 am.

During puberty adolescents experience a later shift in their sleep cycle due to a later release of the sleep hormone melatonin and due to changes in the sleep 'drive'. Both forces result in bio-chemical and developmentally appropriate later sleep times for teens, which then results in chronic sleep loss when teens are forced to wake at biologically inappropriate times. Sleep experts recommend natural sleep times of 11pm to 8am for adolescents - yet many middle and high school students must wake in the 5 or 6 o'clock hour to catch buses or walk to school.

Human Biological Clock: Adult vs. Adolescent



(Carskadon et al., 1979; National Sleep Foundation, 2009; Wahlstrom, 2003)

During adolescence we grow faster and undergo more biological transformation than at any other time in our lives, second only to human growth from birth to age 2. Sleep is when we do the majority of our tissue and muscle repair. Teens process experiences into memories and essentially recharge their hard drives. Asking a teen to wake up before 7am is like asking an adult to wake up at 4am. Sleeping in on weekends only serves to create a 'jag lag' effect.

The proposed schedule for the 2016-2017 school year meets the recommendation given by **The American Academy of Pediatrics, the Centers for Disease Control, the National Association of School Nurses, and the Society of Pediatric Nurses to start school no earlier than 8:30 for middle school and high school students.**

1. Who supports later school start times for adolescents?

Answer: Locally dozens of pediatric and family medicine doctors in Southern Maine have signed on in support of later start times, including Dr. Victoria Rogers, MD head of Let's Go! 5210 and our school physicians of record who advise our school district on all health policy. Nationally, a myriad of professional groups have endorsed healthy school start times. Below are just a few organizations supporting policies on the issue:

*The Education Commission of the States The Centers for Disease Control
The American Academy of Pediatrics The American Thoracic Society
The National Association of School Nurses The American Thoracic Society
The Society of Pediatric Nurses U.S. Secretary of Education Arne Duncan
The American Academy of Child and Adolescent Psychiatry The National Sleep Foundation
The Lloyd Society (Juvenile Justice Group)*

2. What are the effects of not getting enough sleep?

Answer: Chronic sleep deprivation is associated with a host of medical, mental health, safety, and behavioral issues. Below is a mere sampling of some of the research:

- *Increased disparity, wider achievement gap (Buckhalt, 2011; Jacob and Rockoff, 2011)*
- *Poorer academic performance, grade failure (Kahn et al, 1989; Wahlstrom, 2014)*
- *Poorer attention and problem solving (Gibson et al, 2006; Kilgore et al, 2007)*
- *Depression and anxiety (Bates, 2002; Chorney et al, 2008; Gibson et al, 2006; Kahn, 2006)*
- *Suicide (Bernert and Joiner, 2007)*
- *Increased sports injuries (Milewski et al, 2012)*
- *Increased risk-taking: violence, drug use, sexual activities, unsafe behaviors (O'Brien, 2005)*
- *Obesity (Mitchell et al, 2013; Must and Parisi, 2009; Taheri et al, 2004)*
- *Poorer dietary choices (Hale, 2013)*
- *Increased automobile accidents (Danner and Phillips, 2008; NCSDR, 1997; Wahlstrom, 2014)*

3. What are the benefits of a later start time for Saco middle and high school students?

Answer: Based on National and Regional data from other school departments that have made the change:

- *Failing grades down 50% in one year (Nauset Regional High School, Eastham, MA)*
- *Absenteeism went down 40% in one year (Nauset Regional High School, Eastham, MA)*
- *Tardiness decreased 35% in one year (Nauset Regional High School, Eastham, MA)*
- *Sports related injuries are 68% less likely for students who are not sleep deprived (National Data)*
- *Teen automotive accidents/fatalities among teens have decreased by 60-70% in many communities with later high school starting bells (National Data)*

4. Why are different start times for elementary and middle/high schools proposed?

Answer: During puberty two phenomena occur which shift the adolescent sleep and wake times to later than children and adults: melatonin is secreted later in the evening, and the sleep drive is extended. These temporary changes are the reason adolescents biologically cannot adapt well to early wake times, which results in chronic sleep loss and related health and safety concerns. Research consistently points to 8:30 am as the earliest that school should start.

Elementary-age children are biologically programmed to be awake and alert earlier than teens, and thus some schools familiar with the research choose to start elementary earlier. The new start times for elementary schools will be similar to the times from just 2 years ago. In order to make the transportation system work between high school/middle school and the elementary schools, 40 minutes between start times is needed.

5. What time does my child need to go to bed to meet the recommended amount of sleep?

Answer: Elementary students require 10-11 hours of sleep per night. Teens require a minimum of 8.5-9.25 hours and athletes require one additional hour. Adults require a minimum of 7.25 hours. (source: National Sleep Foundation)

| Age | Wake-up time | | | | | | | | | | | |
|-----|---------------|---------|---------|---------|---------|---------|---------|---------|---------|----------|----------|----------|
| | 4:45 AM | 5:00 AM | 5:15 AM | 5:30 AM | 5:45 AM | 6:00 AM | 6:15 AM | 6:30 AM | 6:45 AM | 7:00 AM | 7:15 AM | 7:30 AM |
| | Sleeping Time | | | | | | | | | | | |
| Age | | | | | | | | | | | | |
| 5 | 5:30 PM | 5:45 PM | 6:00 PM | 6:15 PM | 6:30 PM | 6:45 PM | 7:00 PM | 7:15 PM | 7:30 PM | 7:30 PM | 8:00 PM | 8:15 PM |
| 6 | 5:45 PM | 6:00 PM | 6:15 PM | 6:30 PM | 6:45 PM | 7:00 PM | 7:15 PM | 7:30 PM | 7:30 PM | 8:00 PM | 8:15 PM | 8:30 PM |
| 7 | 6:00 PM | 6:15 PM | 6:30 PM | 6:45 PM | 7:00 PM | 7:15 PM | 7:15 PM | 7:30 PM | 8:00 PM | 8:15 PM | 8:30 PM | 8:45 PM |
| 8 | 6:15 PM | 6:30 PM | 6:45 PM | 7:00 PM | 7:15 PM | 7:30 PM | 7:30 PM | 8:00 PM | 8:15 PM | 8:30 PM | 8:45 PM | 9:00 PM |
| 9 | 6:15 PM | 6:30 PM | 6:45 PM | 7:00 PM | 7:15 PM | 7:30 PM | 8:00 PM | 8:15 PM | 8:30 PM | 8:45 PM | 9:00 PM | 9:15 PM |
| 10 | 6:45 PM | 7:00 PM | 7:15 PM | 7:30 PM | 7:45 PM | 8:00 PM | 8:15 PM | 8:30 PM | 8:45 PM | 9:00 PM | 9:15 PM | 9:30 PM |
| 11 | 7:00 PM | 7:15 PM | 7:30 PM | 7:45 PM | 8:00 PM | 8:15 PM | 8:30 PM | 8:45 PM | 9:00 PM | 9:15 PM | 9:30 PM | 9:45 PM |
| 12 | 7:00 PM | 7:15 PM | 7:30 PM | 7:45 PM | 8:00 PM | 8:15 PM | 8:30 PM | 8:45 PM | 9:00 PM | 9:15 PM | 9:30 PM | 9:45 PM |
| 13 | 7:45 PM | 8:00 PM | 8:15 PM | 8:30 PM | 8:45 PM | 9:00 PM | 9:15 PM | 9:30 PM | 9:45 PM | 10:00 PM | 10:15 PM | 10:30 PM |
| 14 | 7:45 PM | 8:00 PM | 8:15 PM | 8:30 PM | 8:45 PM | 9:00 PM | 9:15 PM | 9:30 PM | 9:45 PM | 10:00 PM | 10:15 PM | 10:30 PM |
| 15 | 7:45 PM | 8:00 PM | 8:15 PM | 8:30 PM | 8:45 PM | 9:00 PM | 9:15 PM | 9:30 PM | 9:45 PM | 10:00 PM | 10:15 PM | 10:30 PM |
| 16 | 7:45 PM | 8:00 PM | 8:15 PM | 8:30 PM | 8:45 PM | 9:00 PM | 9:15 PM | 9:30 PM | 9:45 PM | 10:00 PM | 10:15 PM | 10:30 PM |
| 17 | 7:45 PM | 8:00 PM | 8:15 PM | 8:30 PM | 8:45 PM | 9:00 PM | 9:15 PM | 9:30 PM | 9:45 PM | 10:00 PM | 10:15 PM | 10:30 PM |
| 18 | 7:45 PM | 8:00 PM | 8:15 PM | 8:30 PM | 8:45 PM | 9:00 PM | 9:15 PM | 9:30 PM | 9:45 PM | 10:00 PM | 10:15 PM | 10:30 PM |

6. Won't later start times interfere with extracurricular activities and homework?

Answer: Later morning start times have the potential to reduce sports injuries and reduce the amount of time spent on homework – thus protecting student-athletes and providing additional opportunities for community and extracurricular involvement. Among schools around the country who have adopted later start times, extracurricular activity participation remains largely unchanged and Athletic Directors report that the logistics work out better than anticipated.

Research conducted by Stanford University in 2012 showed a 68% increase in sports injuries among adolescents who obtained less than 8 hours of sleep compared to their peers who obtain more than 8 hours per night. These results are not surprising considering that chronic sleep deprivation is associated with decreased reaction time, decreased attention, and poorer peripheral vision. Students who obtain more sleep spend less time on homework, which is also not surprising considering the cognitive effects of sleep deprivation.

We have worked with regional high schools and the SMS athletic calendar and determined that only a minor impact would occur for after school athletics. The athletic department used the 2015-2016 schedule to determine that students would need to be released early from class on a small number of times during the fall and spring seasons. By working together regionally to create schedules, we expect minimal issues.

7. Won't teens just stay up later if school starts later?

Answers: No. Given the later shift in circadian rhythm that occurs during puberty, a teen's bedtime is dictated by biology whereas his/her wake time is dictated by the alarm clock. Studies show that students in neighboring school departments with different start times report that they fall asleep at approximately the same times each night.

Adolescent sleep deprivation is driven in large part by early wake times. In myriad studies of adolescents in schools where later school start times were enacted, adolescent bedtimes remained largely unchanged and total sleep time increased in relation to the later start to the school day.

8. Isn't it the parents' responsibility to make sure kids get enough sleep? Don't we need to prepare teens for the real world? Isn't this "coddling" teens? I got up early and I was ok.

Answers: Parents and teens are responsible for healthy bedtimes, and schools are responsible for healthy wake times. The changes in sleep that occur during puberty are temporary, and end in the mid-twenties - in fact many colleges and the Air Force Academy are altering their schedules, including Duke University which banned courses before 8:30am due to the research. Once puberty is complete the young adult is better able to rise early in the morning, if needed. Even though adults seem to rise earlier, major cities report median work start times after 8:00 am.

- New York - 8:24 am

- San Jose, CA - 8:21 am
- San Francisco - 8:17 am
- Ann Arbor, Michigan - 8:15 am
- Miami - 8:14 am
- Boston - 8:11 am
- Washington, DC - 8:07 am
- United States - 7:55 am

Regarding ‘early school start times were good enough for me’- the current early school start times are a relatively more recent phenomenon – occurring when schools starting adding multiple bus tiers approximately 20 years ago – before experts recognized the shift in sleep cycle that occurs during puberty.

9. As a parent of a middle school or high school student I need to be at work early. I typically drop my child off at school and now need child care. The new schedule creates a problem for my family.

Answer: The school department understands that the schedule will create problems for some students and families. We intend to have a staff member available at SMS at 7:30am and will work to update our food service for students who want to come for breakfast.

10. Aftercare costs in the City of Saco are costly and the change will impact my family’s child care expenses?

Answer: In an effort to assist families, the school department is working with the Saco Parks & Recreation Department to offer more cost effective programs for families in response to the change in schedule. The specifics of these programs and costs associated with them will be shared with families soon.

11. How much does electronic screen time impact adolescent sleep?

Answers: The biggest barrier to teen sleep is a lack of awareness and understanding of the biological shift in teen sleep cycles during puberty. The sleep shift is a real, but temporary phenomena.

The first studies on teen sleep date back 25 years or more, well before personal electronic devices were as pervasive in our culture. Excessive use of digital devices before bed can have an impact on both teen and adult sleep. The pediatric and family medicine doctors supporting later start times in our region also recommend that parents model and enforce good sleep hygiene when it comes to technology. This includes creating consistent bedtime routines, removing personal electronics from the bedroom, and installing a family docking station in the house where these devices go at night.

Just as we educate and children about the harmful impact of tobacco and drugs and encourage the use of safety belts and avoiding strangers online and offline, we need to teach our children about the importance of good sleep hygiene while also being more aware of the very real sleep phase delay in puberty.

12. I rely on my middle school child to care for younger siblings after school.

Answers: As long as the school day is shorter than the workday, parents will always need to make accommodations to provide the best care options for children. Our primary goal is that no child will be waiting for a bus before 7 am.

We also have to weigh the health and safety risks of not addressing healthier start times. Research shows that later start times also help reduce the amount of unsupervised time after school where young teens are known to be at higher risk for experimenting with substances and sexual activity.

13. What is the purpose of the abbreviated Wednesdays?

Answers: The purpose of abbreviated Wednesdays came from the Superintendent’s Listening and Learning Tour and Strategic Planning documentation that supports the need for curriculum, instruction and assessment for our staff. The abbreviated Wednesdays have been approved by the Teacher’s Union and will help move the Saco School Department to be a high performing school system.

14. How will Saco Middle School handle students that must be dropped off before a bus can arrive?

Answers: Students will be allowed in the building at 7:30am in a supervised setting in the cafeteria. Students will be expected to do homework, work with other peers, and eat breakfast. Strict rules will be applied to this setting. Saco Parks & Recreation will be developing programming in the morning and the afternoon and on abbreviated Wednesdays. More specific information will be forthcoming.

15. Will athletes have to miss classroom time to participate in sports and away games?

Answers: The athletic directors at the middle school will be working diligently to have away games that will not impact student learning. At this time there are two games in the fall that will impact student athletics. All fall schedules have not been developed yet. In talking with Thornton Academy this is not an issue.

16. What is the earliest recommended bus pick-up time?

Answers: From "FAQs About Late Start" - Safety experts agree that no child of any age should walk to school or stand by the road in the dark. Every year, deaths of children and teens struck by vehicles in the dark raise concerns about the risks of bus stops before civil twilight. Nationally, the "civil twilight" is 7:30AM. Any bus pick-up time before 7AM is not beneficial to student sleep needs at any age. Rural communities have greater struggles with early pick up times if students have great distances to travel to their schools. Suburban communities throughout the United States have found creative ways to schedule busing that doesn't negatively impact healthy start times. Public transit, flipped busing for elementary and high school and regional busing contracts have all proven effective and economically viable.

17. Why is a regional approach critical for change?

Answers: From "FAQs About Late Start" - Local school districts are organized in ways that limit the ability of local school boards to modify their own schedules independent of regional change. For example, communities that send students to regional Centers of Technology (e.g., Biddeford, Sanford, or Westbrook vocational schools) are legally required to conform to a regional school calendar schedule. While isolated change has occurred, school districts who want to independently act on the research and delay start (and possibly end) times without coordination with neighboring school boards can create logistical problems in regards to transportation and extracurricular scheduling. Whether the actual significance of these logistical problems is real or merely perceived, they are often enough to deter schools from looking closer at healthy start times. By coordinating with local communities on minimum bus pick up and school day start times, each community will determine how to best organize their school schedules within the parameters set. Think of it as similar to nutritional guidelines that set the minimum standards for health, but allows for local control and choices within the evidence-based guidelines.

18. Should schools still have 'zero period' classes or hold extra-curricular meetings before school?

Answers: From "FAQs About Late Start" - While such practices are not encouraged by sleep experts, some communities in other states have met family/parent schedule needs by organizing special tutoring time with before school-care programs. For student athletes, early rising that impedes the recommended 8.5- 9.5 hours of sleep is not recommended.

19. Are other communities looking to change their school start times?

Answers: From "FAQs About Late Start" - Yes, and here are some activities to date: Westbrook, Topsham and Brunswick have already changed their school start times. South Portland, Scarborough, Biddeford, Old Orchard Beach, Yarmouth and Freeport are now considering later start times for the coming year.

20. Does it cost anything to move school start times?

Answers: From "FAQs About Late Start" - Not necessarily – it depends on how schools choose to alter bus schedules. Many schools have adopted changes at no cost or with cost-savings. Other schools have chosen to purchase more buses as part of their plan. The strategies are as varied as the school districts, and if costs are incurred the price tag is minimal when compared to the cost of decreased enrollment, reduced learning, preventable auto accidents, school violence, bullying, compromised health, and depression – all of which are associated with chronic sleep deprivation. Economists writing for the Brookings Institution's Hamilton Project estimated increased future earnings for students in middle and high schools who move to one hour later to be an additional \$17,500 per student in 2011 dollars. These economists compare the possible costs of purchasing more buses or practice field lights in

order to accommodate later start times, and they estimate a conservative benefit-to-cost ratio of 9-1 for any dollar spent in moving start times one hour later. Experts point out that schools do not ignore nutritional guidelines, health codes, asbestos or mold due to cost, and nor should they ignore unhealthy school start times.

21. What is the liability of school boards that fail to act on public health issues that impact students?

Answers: From "FAQs About Late Start" - While several states, including Maine, have/are introducing statewide legislation, at this point there is no national or state legislation that mandates school districts change their start time to after 8:30AM. However, in recent months there have been discussions of potential litigation against school boards in Mid-Atlantic States (Virginia and Ohio) where school boards have failed to act after years of "studying" the issue. Of most importance is the recognition that school start times are a public health and safety issue. Public health and safety mandates that protect children are considered essential components of society. Child labor laws, child safety seat regulations, graduated driving licenses, minimum age requirements to purchase tobacco and alcohol, and school nutritional guidelines are merely a few examples of the ways in which we protect children and promote public health through legislation.

22. How would the new schedule impact the middle school/high school bus schedule/routes? This information would help determine the impact on our morning routine of our family with two working parents and two kids at different schools next year.

Answers: We have done an extensive analysis of the new bus routes, including those for TA students. This analysis is going to be posted on the website and will show the start and end times of all buses based on the K-2, 3-5, SMS, and TA start and end times.

23. I am wondering how the earlier release time on Wednesdays will affect Educational Technicians?

Answers: We are looking at staggering times for some of our Educational Technicians K-8, as well as for some teachers. At SMS we could have a staggered schedule for some ed techs to provide tutoring or support to students from 7:30AM-8:30AM under the supervision of a teacher or administrator. And although we have not solidified a professional development schedule as of yet, the good news is that educational technicians should have more professional development than they have had in the past.

24. Why can't teachers come in on April Vacation or February Vacation to do their professional development?

Answer: Teachers have a collective bargaining agreement that clearly gives them these vacations when the students are off.

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