



School Start Time Study Council

William J. Gretzula
Superintendent
January 24, 2020

Comprehensive Plan (2020-2023)

Goal 1: The Pennsbury School District will initiate, support and maintain programs and strategies that will support the whole child



Strategies:

- Investigate Changing School Start Times
- Evaluate and Implement Targeted Intervention Programs
- Develop Comprehensive Alternative Education Option
- Continue/Expand Appropriate Social/Emotional Learning (SEL)

District Goal (2019-2020)

Support Consideration of New Educational Initiatives

- Implement K-12 STEM Program
 - Implement SPARK program as 5th elementary school special area period.
 - Assess the benefits/challenges of offering such learning opportunities.
- Develop and implement the Cyber Academy at Pennsbury (CAP)
 - Determine and procure the most appropriate curricular options for students.
 - Advertise availability of the cyber learning opportunity through print and electronic media.
 - Host a community evening event to attract potential students and families.
 - Monitor student participation at CAP throughout the year.
- Investigate changing school start times.
 - Review literature and research from prominent medical and educational experts.
 - Form an ad-hoc committee of stakeholders to meet throughout the year discussing research, community survey results and possible scheduling alternatives.
 - Present a progress report to the Board of School Directors and community by June 2020.
- Engage in curriculum renewal processes to enhance educators' ability to meet the needs of all students.
 - Host curriculum writing opportunities for District-wide curriculum leaders with support from expert, Dr. Jay McTighe.
 - Enhance K-12 assessment plan.

Committee Representation

Central Office Administrators (10)	Professional Personnel (6)
School Board Members (3)	Support Personnel (4)
Building Level Administrators (7)	Supervisory Personnel (2)
Parents (7)	Community Partner (1)

Students' voice will be added through future focus group meetings and survey instruments.

The TED logo is displayed in a large, bold, red sans-serif font.

Ideas worth spreading

What is Melatonin?

Exposure to light stimulates a nerve pathway from the retina in the eye to an area in the brain called the hypothalamus.

A special center called the **suprachiasmatic nucleus (SCN)** initiates signals to other parts of the brain that control hormones, body temperature and other functions that play a role in making us feel sleepy or wide awake.

Once exposed to the first light each day, the clock in the SCN begins performing functions like raising body temperature and releasing stimulating hormones like cortisol.

The SCN also delays the release of other hormones like melatonin, which is associated with sleep onset, until many hours later when darkness arrives.

What is Melatonin?

Melatonin is a natural hormone made by your body's pineal (pih-knee-uhl) gland. This is a pea-sized gland located just above the middle of the brain.

During the day the pineal is inactive. When the sun goes down and darkness occurs, the pineal is "turned on" by the SCN and begins to actively produce melatonin, which is released into the blood. Usually, this occurs around 9 pm.

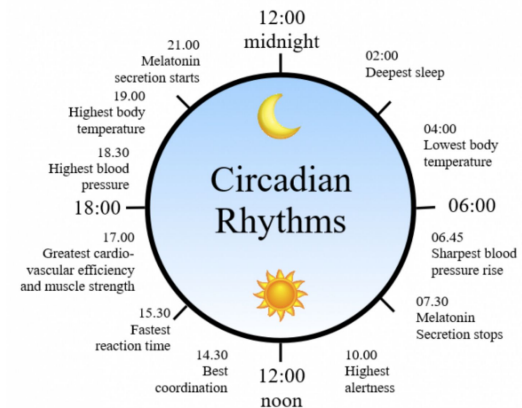
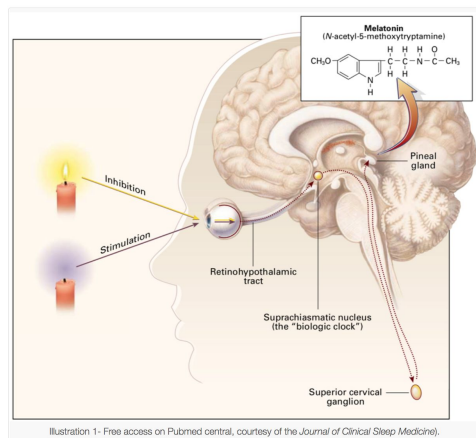
As a result, melatonin levels in the blood rise sharply and you begin to feel less alert. Sleep becomes more inviting. Melatonin levels in the blood stay elevated for about 12 hours - all through the night - before the light of a new day when they fall back to low daytime levels by about 9 am.

What is a Circadian Rhythm?

The Circadian Rhythm's functions are controlled within the hypothalamus, a portion of the brain. Within this part of the brain lies the suprachiasmatic nucleus (SCN).

This is the component in our brains that functions like a clock, operating on a 24-hour rhythm. The SCN controls the production of melatonin, the hormone responsible for making you feel tired or sleepy.

Within the SCN are a group of neurons that have the neuropeptide called Neuromedin S (NMS), which are critical for the timing of the Circadian Rhythm.



Source: <https://luxreview.com/article/2016/05/two-minute-explainer-circadian-rhythms>

Let Them Sleep: AAP Recommends Delaying Start Times of Middle and High Schools to Combat Teen Sleep Deprivation

8/25/2014

For Release: August 25, 2014

Studies show that adolescents who don't get enough sleep often suffer physical and mental health problems, an increased risk of automobile accidents and a decline in academic performance. But getting enough sleep each night can be hard for teens whose natural sleep cycles make it difficult for them to fall asleep before 11 p.m. – and who face a first-period class at 7:30 a.m. or earlier the next day.

In a new policy statement published online Aug. 25, the American Academy of Pediatrics (AAP) recommends middle and high schools delay the start of class to 8:30 a.m. or later. Doing so will align school schedules to the biological sleep rhythms of adolescents, whose sleep-wake cycles begin to shift up to two hours later at the start of puberty.

American Academy of Pediatrics Supports Childhood Sleep Guidelines

6/13/2016

The American Academy of Pediatrics (AAP) has issued a Statement of Endorsement supporting the American Academy of Sleep Medicine (AASM) guidelines outlining recommended sleep duration for children from infants to teens. The guidelines, "Recommended Amount of Sleep for Pediatric Populations" will be published June 13 in the Journal of Clinical Sleep Medicine. The AAP endorses the guidelines and encourages pediatricians to discuss these recommendations and healthy sleep habits with parents and teens during clinical visits.

The consensus group recommends the following sleep hours:

- Infants 4 months to 12 months should sleep 12 to 16 hours per 24 hours (including naps) on a regular basis to promote optimal health.
- Children 1 to 2 years of age should sleep 11 to 14 hours per 24 hours (including naps) on a regular basis to promote optimal health.
- Children 3 to 5 years of age should sleep 10 to 13 hours per 24 hours (including naps) on a regular basis to promote optimal health.
- Children 6 to 12 years of age should sleep 9 to 12 hours per 24 hours on a regular basis to promote optimal health.
- Teenagers 13 to 18 years of age should sleep 8 to 10 hours per 24 hours on a regular basis to promote optimal health.

School Night Hours of Sleep by Age

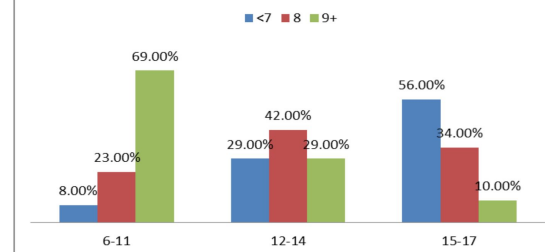


Figure 1: School Night Hours of Sleep by Age Group. While 69% of kids age 6-11 get approximately enough sleep, just 1 in 10 15-17 year olds are. Source: National Sleep Foundation, 2014..

2017 Bucks County Start/End Times (High School)

Bensalem	7:15	2:40
Bristol Borough	7:45	2:33
Bristol Township	7:13	2:13
Centennial	7:30	2:17
Central Bucks	7:30	2:45
Council Rock	7:33	2:15
Morrisville	7:45	2:30
Neshaminy	7:16	2:14
New Hope-Solebury	7:50	2:30
Palisades	7:40	2:27
Pennridge	7:15	2:15
Pennsbury	7:20	2:15
Quakertown	7:10	2:10

2017 Bucks County Start/End Times (Middle School)

Bensalem	7:50	2:40
Bristol Borough	7:45	2:33
Bristol Township	8:00	2:45
Centennial	8:00	2:45
Central Bucks	7:25	2:40
Council Rock	8:05	3:00
Morrisville	7:45	2:30
Neshaminy	8:00	2:55
New Hope-Solebury	7:50	2:30
Palisades	7:32	2:37
Pennridge	7:55	2:55
Pennsbury	8:10	2:55
Quakertown	8:00	3:00

2017 Bucks County Start/End Times (Elementary School)

Bensalem	8:45	3:25
Bristol Borough	8:05	2:40
Bristol Township	8:50 / 9:20	3:15 / 3:45
Centennial	8:45	3:30
Central Bucks	8:30 / 8:50 / 9:00	3:00 / 3:10 / 3:30
Council Rock	9:10	3:40
Morrisville	8:25	3:00
Neshaminy	9:10	3:55
New Hope-Solebury	8:45	3:25
Palisades	9:00	3:40
Penridge	8:35 / 8:50	3:20 / 3:35
Pennsbury	9:00	3:40
Quakertown	9:00	4:00

SCHOOL START TIMES LITERATURE REVIEW

Prepared for Bucks County Intermediate Unit

February 2017



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RESEARCH
www.hanoverresearch.com

Joint State Government Commision (Oct. 2019)

SLEEP DEPRIVATION IN ADOLESCENTS: THE CASE FOR DELAYING SECONDARY SCHOOL START TIMES

**Report of the Advisory Committee on
Later School Start Times at Secondary Schools**

OCTOBER 2019

Joint State Government Commision (Oct. 2019)

Thomas C. Barnes, Ph.D. Association of School Psychologists of Pennsylvania School Psychologist Council Rock School District	Gail R. Karafin, Ed.D School Psychology Board Pennsylvania Psychological Association (PPA) Independent Practice, Doylestown, PA
Karen Barnett, RN, CRNP, MS, MPH Certified School Nurse Central Bucks School District	Honorable Pedro A. Rivera Secretary of Education Designee: David W. Volkman Executive Deputy Secretary Pennsylvania Department of Education
Amy Goldman Co-Founder Regional Adolescent Sleep Needs Coalition (Southeast Pennsylvania) School Board Member Radnor Township School District	John C. Sanville, Ed.D. Superintendent Unionville-Chadds Ford School District
Mark Hoffman, Ed.D. Executive Director Bucks County Intermediate Unit	Wendy M. Troxel, Ph.D. Senior Behavioral and Social Scientist RAND Corporation

Joint State Government Commission (Oct. 2019)

Public health officials and the medical community at large have declared that a public health crisis of epidemic proportions is affecting American adolescents.

Most adolescents do not get enough sleep, leading to a myriad of mental, behavioral, and physical effects, as well as public safety concerns.

Adolescent sleep needs are driven by a temporary biological shift in sleep onset and wake times that occurs concurrently with the onset of puberty, and ends in early adulthood.

Early school start times run counter to this biological condition, and can contribute substantially to adolescent sleep deprivation.

Joint State Government Commission (Oct. 2019)

Insufficient sleep affects adolescent school performance in terms of:

- A) cognitive function and performance,
- B) graduation rates,
- C) attendance, and
- D) tardiness.

Insufficient sleep increases the risk of:

- A) adolescent motor vehicle accidents, B) athletic injuries, and C) other injuries.

Joint State Government Commission (Oct. 2019)

Insufficient sleep affects adolescent behavioral health in terms of:

- A) poor self-esteem, and B) risky behavior, including crime and delinquency.

Insufficient sleep affects adolescent mental and physical health in terms of:

- A) affect and mood,
- B) anxiety,
- C) depression and suicidality, and
- D) higher cardiometabolic disease risk and immune system compromise.

Joint State Government Commission (Oct. 2019)

A review of the status of school start times in Pennsylvania reveals that the majority of Pennsylvania's school districts have start times between 7:30 AM and 7:59 AM.

At least eight of the 500 school districts across the Commonwealth have secondary start times of 8:30 AM or later.

Overall, charter schools and nonpublic schools have slightly later secondary school start times, but few meet the 8:30 AM or later goal.

Joint State Government Commission (Oct. 2019)

A survey conducted by the Commission in conjunction with the Pennsylvania Department of Education, as well as additional information provided by the Start Schools Later organization, helped to identify the following:

- A) At least 25 school districts that delayed their secondary school start times during the period 2011-2019.
- B) At least 28 districts were found to be publicly engaged in researching the matter
- C) At least 15 more self-identified as having had informal discussions at the administrative level about the suitability of delaying - 2 - school start times within their home districts.

Joint State Government Commission (Oct. 2019)

The commission identified common perceived challenges including:

- Instructional School Day Requirements
- Transportation, in General
- Bus Driver Shortages
- Transportation Mandates, Coordination, and Logistics
- Athletics and Other Extracurricular Activities
- Impact on Elementary School Students and Families
- Impact on Teachers and Staff
- Community Support

Joint State Government Commission (Oct. 2019)

Senate Resolution 417 of 2018 directed the Joint State Government Commission to appoint an Advisory Committee to assist the Commission in a study of the issues, benefits, and options relating to instituting a later school start time in Pennsylvania's secondary schools.

The Advisory Committee's most salient recommendation is that Pennsylvania's school districts should consider studying the advisability of changing their secondary school start times to improve the health and welfare of their students.

California Senate Bill 328: School Start Time

SECTION 1. *Section 46148 is added to the Education Code, to read:*

(a) (1) The schoolday for high schools, including high schools operated as charter schools, shall begin no earlier than 8:30 a.m.

(2) The schoolday for middle schools, including middle schools operated as charter schools, shall begin no earlier than 8:00 a.m.

(b) For purposes of this section, "schoolday" has the same meaning as defined by the school district or charter school for purposes of calculating average daily attendance in order to compute any apportionments of state funding. This section does not prohibit a school district or charter school from offering classes or activities to a limited number of pupils before the start of the schoolday that do not generate average daily attendance for purposes of computing any apportionments of state funding.

California Senate Bill 328: School Start Time

(c) This section shall be implemented by middle schools and high schools no later than July 1, 2022, or the date on which a school district's or charter school's respective collective bargaining agreement that is operative on January 1, 2020, expires, whichever is later.

(d) This section shall not apply to rural school districts.

(e) The department is encouraged to post on its internet website available research on the impact of sleep deprivation on adolescents and the benefits of a later school start time and examples of successful strategies for managing the change to a later school start time, and to advise school districts and charter schools of this posting.

(f) The Legislature encourages school districts, charter schools, and community organizations to inform their communities, including parents, teenagers, educators, athletic coaches, and other stakeholders, about the health, safety, and academic impact of sleep deprivation on middle and high school pupils and the benefits of a later school start time, and to discuss local strategies to successfully implement the later school start time.

Objectives (Pennsbury SD)



Future Dates (Tentative Topics)

- Thursday, February 27, 2020
 - Review of Radnor Township SD Proposal
- Thursday, March 26, 2020
 - Develop Options
- Thursday, May 28, 2020
 - Construct Stakeholder Survey
 - Continue Development of Options
- September/October 2020
 - Conduct Survey/Host Community Forum
- November 2020
 - Finalize Pennsbury SD Proposal for Board of Directors

Upcoming Sessions in Bucks County Districts

PENNRIDGE SCHOOL DISTRICT
SLEEP AND SCHOOL START TIME
COMMITTEE PRESENTS:

January 29 • Wednesday • 7 PM
Pennridge High School Auditorium

ADOLESCENT SLEEP AND SCHOOL START TIMES: WHAT DO WE NEED TO KNOW?

With Drs. Jacqueline Kloss and
Amanda Finegold Swain



Jacqueline D. Kloss, Ph.D.
Licensed Psychologist
Bryn Mawr Psychological
Associates



Amanda Finegold Swain, MD
Staff Physician, Student Health
Service
Clinical Assistant Professor of
Family Medicine and Community
Health
University of Pennsylvania

Upcoming Sessions in Bucks County Districts



MARK YOUR CALENDAR

Nationally recognized expert on sleep health, Dr. Wendy Troxel, will present her findings on adolescent sleep habits and needs. This presentation is free, open to the public, and requires no registration.

SNOOZE OR LOSE

PROMOTING SLEEP HEALTH IN ADOLESCENTS

WEDNESDAY, FEBRUARY 5
7 P.M. - NEWTOWN MIDDLE SCHOOL

