

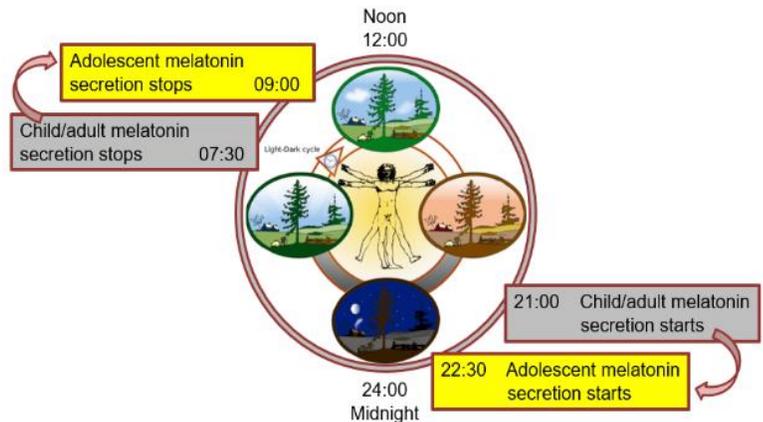


### Why Start School Later?

During puberty, humans are biochemically programmed to fall asleep later in the evening than younger children and older adults, and rise later in the morning. This temporary “phase delay” has been known since the 1990s, and it resolves when puberty is complete. As early as 1993, health experts recommended later starting times for teens. Yet by then, many schools had already adopted multiple bus tiers and adjusted community life around them.

Most teens need about 9.25 hours of sleep every night. The healthiest window for teen sleep is from about 11 p.m. to 8 a.m. Early school start times result in bus pick-ups in the 6 o’clock hour, with many teens waking in the 5 o’clock hour. These early wake times directly reduce and disrupt adolescent sleep.

Because of the later shift in teen circadian rhythm, earlier bedtimes are not a viable alternative to healthy wake times. Even if a teen could fall asleep at 8 p.m., sleep *timing* is nearly as important as sleep duration.



### What are the Risks of Sleep Loss?

Below is an overview of some of the risks associated with deficient or disrupted sleep for teens:

- **Increased car crashes**  
(One district noted 70% drop in teen car crashes after adopting later school start times.)
- **Increased pedestrian accidents**  
(50% increase in teen pedestrian accidents in crosswalk simulations.)
- **Increased Sports injuries**  
(Study: students with 8 hrs of sleep or more have 68% fewer sports injuries than their peers.)
- **Increased Depression & anxiety**
- **Increased risk of suicide**  
(Meta-analysis: 11% decrease in teen suicide risk for every one hour of additional sleep.)
- **Increased Substance abuse**  
(In a study of middle school students over four years, each hour of lost sleep increased teen marijuana use by nearly 14% and alcohol use by nearly 15%.)
- **Poorer academic performance**  
(Study of 29 schools: moving start times to after 8:30 a.m. increased graduation rates.)
- **Lower emotional intelligence**
- **Increased aggression and poorer impulse control**  
(Suspected reason: sleep loss reduces metabolic activity to the prefrontal region of the brain.)
- **More school behavioral issues**  
(In one study, teacher time outs dropped from 456 to 45 after change to later start times.)
- **Increased risk of diabetes**  
(Sleep loss impacts hormones that regulate insulin resistance, appetite, and food choices.)

## **Who Supports Later Start Times?**

Below are just a few of the organizations that have called for later school start times:

**National Parent Teacher Association  
Education Commission of the States  
American Academy of Pediatrics  
National Education Association  
National Sleep Foundation  
Society of Pediatric Nurses  
Centers for Disease Control  
American Medical Association  
National Assn of School Nurses  
American Psychological Association**

**American Thoracic Society  
American Sleep Association  
Society of Behavioral Medicine  
American Assn of Sleep Technologists  
American Academy of Sleep Medicine  
Ohio Adolescent Health Partnership  
Coalition of Labor Union Women  
American Academy of Child &  
Adolescent Psychiatry  
Ohio NASW**



## **What About Transportation Costs?**

So far Ohio schools have been able to adopt later start times at no cost or with cost-savings. The RAND Corporation, moreover, explored the expense of moving all Ohio schools to 8:30 a.m. with single-tier busing, and found that even *if* there were costs, for any \$1 spent, the return on investment would be at least \$1.39 within 2 years and \$2.37 within 5 years thanks to increased graduation rates and fewer car crashes. The researchers added that actual benefits would be much higher, since they did not examine the additional economic gains from improved health and mental health.

## **What About Sports?**



Hundreds (if not thousands) of schools across the nation have delayed bell times without reducing (and often increasing) sports participation. Many schools even note more successful seasons—consistent with research linking sleep to better athletic performance. The best outcomes occur when athletic directors have time to arrange practice and competition schedules around new schedules.

## **What About Daycare?**

Daycare needs do not typically increase or decrease with later school start times; rather they shift to differing times of the day. It works best, however, when schools provide plenty of notice to families and communities so that they have time to work with community stakeholders to explore creative options for before and after school care—such as early drop-offs, on-site care, or zero-period courses.

## **About Senate Bill 218**

Senate Bill 218 was introduced by Senator Sandra Williams because of concerns about the safety of children walking to school or bus stops in the dark. The bill, as currently written, limits any school in Ohio from starting before 8:30 a.m. If you would like to help support this legislation, contact Senator Williams's office and/or Start School Later's Ohio Chapter.

## **About Start School Later, Inc:**

Start School Later is a national nonprofit 501(c)(3) organization comprised of health professionals, sleep scientists, educators, parents, students, and other concerned citizens working to ensure that all schools set hours compatible with health, safety, equity, and learning.

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