

Wayland Public Schools
Report of the School Start Time Task Force

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Presented to Dr. Gary Burton
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School Start Times Task Force Members

Ken Altshuler	Parent – Wayland High School; Teacher & Department Chair – Wayland High School
Kathy Cleaver	Parent – Claypit Hill & Wayland Middle Schools
Brad Crozier	Principal – Happy Hollow School
Debbie Dean	Parent – Wayland Middle & High Schools
Dale Edgar	Parent – Claypit Hill School; Sleep Researcher Expert – Sleep & Circadian Rhythm Disorders
Elizabeth Gavron	Parent – Loker School; Teacher – Wayland Middle School
John Howland	Parent – Happy Hollow School
Martha Jamieson	Athletic Director – Wayland High and Middle Schools
Phyllis Kennedy	Parent – Claypit Hill and Wayland Middle Schools
David Lewin	Wayland High School Student
Allyson Mizoguchi	Task Force co-chair; Assistant Principal – Wayland High School
Scott Parseghian	Dean of Students – Wayland High School
Jody Pongratz	Parent – Wayland Middle School
Catherine Radmer	Parent – Loker and Wayland Middle School
Alex Rikleen	Wayland High School Student
Jean Tower	Task Force co-chair; Parent – Wayland Middle School; Director of Technology – District
Mabel Reid-Wallace	METCO Director – District
Michelle Wolf	Parent – Wayland Middle and High Schools
Barbara Wolfson	Parent – Wayland High School; Teacher – Loker School

Section I Introduction

The *School Start Time Task Force* was convened by Dr. Gary A. Burton, Wayland Public Schools Superintendent, to study the issue of school start times as related to the sleep needs of students. In order to set the stage for the reader, we provide below a general timeline of events that preceded our work as a committee.

- In the 2002-2003 school year two Wayland High School students, Alex Rikleem and David Lewin, raised concerns and campaigned for a change in the secondary school start times that would enable High School students to sleep later in the morning.
- In the 2003-2004 school year the School Councils at each of the schools were asked to consider sleep issues as they related to Wayland students and to react to the student proposal to change the High School starting and ending times.
- In February, 2004, Dr. Dale Edgar, Wayland resident and Sleep Researcher and Expert on Sleep & Circadian Rhythm Disorders, made a presentation to the Wayland School Administrators summarizing the latest research on adolescent sleep needs and raising awareness about the complexities of the issue.
- In February, 2004, Wayne Ogden, Assistant Superintendent, after reviewing school council reports and the research on the topic, recommended to Dr. Burton and School Committee the establishment of a Task Force to develop an implementation plan for a change in secondary start times.
- In May, 2004, a small subset of this Task Force, comprised of Wayland Public Schools staff, met and created three alternative secondary school schedules designed to better meet the sleep needs of adolescents.
- The full Task Force, listed on the inside cover, began their work in the Fall of 2004.

The task force met seven times in the fall of 2004, on the following dates:

- September 28, 2004
- October 5, 2005
- October 12, 2004
- October 19, 2004
- October 26, 2004
- November 2, 2004
- November 9, 2004

Prior to the first meeting, the co-chairs, Jean Tower and Allyson Mizoguchi, sent a resource package to each member of the Task Force. Included in the package were the current school hours, the three proposals for alternative school schedules, the reports from the various Wayland school councils, and selected readings on the topic that are listed in the resources section at the end of this report.

At the first meeting of the Task Force, Dr. Edgar once again presented his summary of the latest sleep research. Our next session was devoted to airing concerns, defining terms, discussing the research, and establishing a list of the implications of changing the school schedules. In light of the diverse viewpoints and concerns generated we decided we first needed to understand and define the problem together as a group. The next several sessions of the committee were devoted to developing Section II of this report, *Consensus Statement and Summary*. In it, we synthesize the research on the problem of sleep deprivation and identify the unique traits and values of Wayland Public Schools that we all came to agree must inform our recommendation. Indeed, our recommendation, Section III of this report, is based entirely on the problem and its constraints as we defined them in Section II.

Section II Consensus Statement and Summary

The Problem

The fundamental need for sleep is inescapable; it is as vital to human beings as food, water, and the air we breathe. The vast majority of adolescents in the United States are chronically and profoundly deprived of sleepⁱ. Indeed, The National Institutes of Health (NIH) have identified adolescents and young adults (ages 12-25) as a population at high risk for problem sleepiness. Research, workshops, and expert forums independently sponsored by the National Research Council of the National Academy of Sciences, the National Commission on Sleep Disorders Research, the National Sleep Foundation, the American Academy of Sleep Medicine, and the National Center for Sleep Disorders Research have delivered overwhelming and compelling evidence that adolescent children are not getting sufficient sleep.

The most troubling consequences of sleepiness are injuries and deaths related to lapses in attention and delayed response times at critical moments, such as while driving. Young drivers, age 25 or under, cause more than one-half of “fall-asleep” crashes. Inadequate sleep also increases risk of depression, diabetes, obesity, stimulant use, and compromised immune function. Sleep deprivation also impairs learning and long-term memory consolidation. Sleep that is truncated by early awakening disproportionately reduces REM sleep that is normally concentrated in the last third of the nightⁱⁱ. REM sleepⁱⁱⁱ need parallels estimates of memory assimilation rates and is believed to be important for associative learning. Sleep deprivation dramatically impairs a student’s ability to concentrate, and confounds an adolescent’s struggle to learn how to manage stress and control emotion, exacerbating irritability, mood swings, and undermining self-esteem and confidence.

Middle and High School adolescents require 9 or more hours of sleep per night, but rarely sleep more than 6-7 hours. Factors that influence how much adolescents sleep per night cluster into two major areas. One is intrinsic – biological processes going on internally in adolescents; the other is external - social, academic, and environmental. All of these factors can play a significant role in their sleep habits. Psychosocial factors contribute significantly to sleep loss in adolescents as social obligations and opportunities for work compete with available time for academic and extracurricular expectations, and family obligations.

Achieving adequate amounts of sleep is a complex challenge for adolescents. The opportunity to sleep is partially constrained to a biologically controlled window of opportunity for sleep that opens between 10-11 PM for most adolescents. National surveys indicate that for two-thirds of 9th to 12th graders, bedtime was after 11 p.m. on school nights; 91% rose at 6:30 a.m. or earlier. Seventy percent of the teenagers try to catch up on their sleep on weekends by oversleeping.

Addressing this issue is rapidly becoming a national imperative. Indeed, the problem of adolescent sleep is great enough a concern in Wayland for the school system to have studied this issue in school councils and to have convened this group to further study the problem and to make a recommendation about school start times to Gary A. Burton, School Superintendent. Based on the research we reviewed, we agreed that the current Middle School and High School start times are not conducive to our students being able to schedule sleep in keeping with the very real physiological sleep patterns of adolescents recognized by science.

The Work of The Task Force

In positing our consensus statement on the revision of school start times, we abide by the fundamental values of our school system. Foremost among these values is the unequivocal commitment to academic pursuits, stated in the Wayland High School mission statement as: “At its core, our mission is to provide a rigorous and stimulating academic environment that promotes the acquisition of knowledge and skills.” Moreover, the following items are also both important to and consistent with the commitment of the Wayland Public Schools.

- Our school community makes decisions responsibly and imaginatively within financial and space constraints.
- Extracurricular activities are a vital part of our students’ development.
- The METCO program is integral to the strength and vitality of our school community.
- Decisions are made neither unilaterally nor with favoritism toward one school or level over the others.

In light of these aforementioned values, we face many challenges in formulating our recommendation. For example, since the current elementary school hours meet the sleep needs of pre-adolescent children^{iv} we would advocate for a solution that changes the elementary schedule only if it continues to meet the health needs of the elementary school students, in keeping with our commitment not to make decisions that favor one school or level over another. So, while we are mindful of the research, we simultaneously struggle with the constraints of competing obligations and forces inherent to our community. A later start to the Middle School and High School day would impact in the following critical areas:

- Schedules of athletic and other extra-curricular activities
- Outside of school student activities such as internships, religious school, private lessons, jobs, etc
- Transportation (school bus) scheduling and cost
- Family schedule issues
- Late arrival home for Boston resident students

Summary

This consensus statement establishes both the scientific case, as we have gleaned from the research, that adolescents are not getting enough sleep, as well as the constraints specific to the Wayland community that the Task Force feels must be taken into account in the context of implementing our recommendation.

Part II Recommendation and Conclusion

Recommendation

The research findings on sleep needs compel us to advocate action on the problem. We do not, however, recommend changing the school schedules based solely on the work of this Task Force, which follows the initial studies already completed by the five school councils. We recommend a phase, subsequent to our work, committed to raising community awareness of the problem and further studying the many consequences of such a schedule change. Our recommendations fall into three main areas: a call to action, increased educational initiatives, and a cooperation and collaboration among schools to include those schools that participate in athletics with Wayland schools.

• ***Call to Action***

This Task Force unanimously recommends that the Wayland School District proactively seek a means to delay the High School and Middle School start times by 45 minutes or more. We realize that this action does not optimally address the sleep needs issue for all secondary students; a delay 45-minute delay, however, would provide sufficient benefit to most students to warrant action. A 45-minute delay allows for one more REM sleep cycle and allows for 9 hours of sleep within the adolescent biological sleep window for most students. Therefore, this recommendation is a worthwhile step toward addressing the sleep needs of our students even if isn't an ideal solution. It is anticipated that delaying High School and Middle School start times will incur increased student transportation costs. Feasibility studies are recommended to further explore the operational details around changing the schedule. This Task Force could not envision a viable no-cost solution without negatively impacting the elementary school schedule, which is an unacceptable outcome to the Task Force.

• ***Education Initiatives***

This Task Force unanimously recommends the immediate initiation of a broad community education campaign. The Task Force feels that the monetary cost of delaying the High School and Middle School start times may not be appreciated or endorsed by the community in the absence of knowledge about the health consequences of doing nothing. The Task Force has identified several forums for advancing community awareness and education:

- Publish the recommendations of this Task Force (Press Release).
- Begin a Professional Development lecture series for Wayland school faculty.
- Organize a series of lectures for parents and the community (PTO, Town Meetings, or other forums).
- Add a "Sleep" component to the health curriculum for students during National Sleep Health Awareness Week.
- Proactively involve local legislators in child and adolescent sleep health awareness.
- Include sleep needs in the educational effort resulting from the annual Youth Risk Behavior Survey.

- ***Foster Cooperation and Consensus***

The Task Force unanimously recommends that Wayland school administrators initiate formal structured “roundtable” dialog with representatives from other schools to discuss and negotiate schedule impact upon all extra-curricular activities, including league athletics.

Conclusion

This *School Start Times Task Force* concludes that the current High School and Middle School schedules are not compatible with the minimum healthful sleep requirements of adolescents. These students are required to begin school earlier than biologically ideal. These findings are scientifically supported, and the negative health consequence of inaction is incontrovertible. Changing the High School and Middle School schedule is a deeply complicated proposal that requires the attention of the entire school community and cooperation with neighboring communities. It is our hope that this ***call to action*** will be carefully reviewed for financial feasibility *and* vetted thoroughly in public forums that provide ample opportunity for the public to provide input and to learn about the research and factors that guide this recommendation.

Resources

Adolescents and Sleep, National Sleep Foundation Web Site. Retrieved December 2004, from <http://www.sleepfoundation.org/publications/2000poll.cfm#7>

Adolescent Sleep Needs and Patterns: Research Report and Resource Guide, National Sleep Foundation, 2000.

Carskadon, Mary A. (Editor). (2002). *Adolescent Sleep Patterns: Biological, Social, And Psychological Influences*. Cambridge: Cambridge University Press.
for book review, see: <http://www.sleephomepages.org/books/adolescsleep.html>

Edina High School Later Start. Several Documents Related to the Process and Findings of Edina Public School District. <http://www.edina.k12.ma.us/whatsup/laterstart/>

Graham, Mary G. (Editor). (2000). *Sleep Needs, Patterns and Difficulties of Adolescents: Summary of Workshop*. Forum on Adolescence, Board on Children, Youth, and Families, National Research Council, Institute of Medicine, and Commission on Behavioral and Social Sciences, National Academy of Sciences (USA)

A Look at the School Start Times Debate, National Sleep Foundation Web Site. Retrieved December 2004, from: <http://www.sleepfoundation.org/features/schoolDebate.cfm>

Sleep Links, National Sleep Foundation Web Site. Retrieved December 2004, from <http://www.sleepfoundation.org/beyond.cfm>

Sleepless in Suburbia. (February 25, 2001). Washington Post Magazine, pp 8-25.

Study Finds Benefits from Starting School Later in the Day. (September 5, 2001). Education Week, p 11.

ⁱ According to the National Sleep Foundation's 2002 Sleep in America poll (see: <http://www.sleepfoundation.org/features/schoolDebate.cfm>)

also see: Adolescent Sleep Needs and Patterns: Research Report and Resource Guide, National Sleep Foundation, 2000.

ⁱⁱ Sources:

(1) Adolescent Sleep Patterns: Biological, Social and Psychological Influences. Mary A. Carskadon (Editor), Cambridge University Press, 2002, 297 pp ISBN: 0-521-64291-4 (for book review, see: <http://www.sleephomepages.org/books/adolescsleep.html>)

(2) Adolescent Sleep Needs and Patterns: Research Report and Resource Guide, National Sleep Foundation, 2000.

(3) Sleep Needs, Patterns and Difficulties of Adolescents: Summary of Workshop. Mary G. Graham (Editor), Forum on Adolescence, Board on Children, Youth, and Families, National Research Council, Institute of Medicine, and Commission on Behavioral and Social Sciences, National Academy of Sciences (USA), 2000, 64 pp.

ⁱⁱⁱ REM sleep – or “rapid eye movement sleep” is the stage of sleep most commonly associated with dreaming. During REM sleep the human brain is highly active, sometimes even more active than during wakefulness, and episodes of quick eye movements can be observed beneath closed eyelids. REM or “dreaming sleep” is also characterized by small phasic muscle twitches and changes in heart rate as the vividness of the dream calls upon the sleeping body to act out the dream experience. In healthy individuals, however, the sleeping brain strongly inhibits muscle activity in the limbs so that the individual does not act out the dream.

^{iv} According to sleep and circadian rhythms expert Dr. Dale M. Edgar, as assessed with the valuable counsel of notable authorities in sleep disorders medicine including Dr. Mary A. Carskadon, Dr. Charles A. Czeisler, Dr. Thomas Scammell, Dr. William C. Dement, and others, and consistent with the recommendations and guidelines described in the National Sleep Foundation's 2004 Sleep in America Poll Task Force Final Report (prepared by Dr. Jodi Mindell, Task Force Chairperson, St. Joseph's University and Children's Hospital of Philadelphia, Dr. Mary A. Carskadon, Brown University, Dr. Ronald Chervin, University of Michigan and Lisa Meltzer, Children's Hospital of Philadelphia). Report is available on-line at <http://www.sleepfoundation.org/polls/2004SleepPollFinalReport.pdf>