

RT NEWS MEDICAL UPDATE



GENERAL HEALTH

HIGH RATE OF FUTURE ADULT OBESITY PROJECTED BY SIMULATION MODELS

Given the current level of childhood obesity in the United States, a simulation study predicts more than half of today's children (57%) will be obese at the age of 35 years, and roughly half of that projected prevalence will begin during childhood.

"On the basis of our simulation models, childhood obesity and overweight will continue to be a major health problem in the United States," the study authors said. "Early development of obesity predicted obesity in adulthood, especially for children who were severely obese." The study, by Ward et al, was published in the *New England Journal of Medicine*.¹

The authors noted that, although the current epidemic of obesity in both adults and children has been well documented, less is known about the potential for adult obesity in a given child based on his or her current age and weight. They developed a model to estimate the risk of obesity at age 35 for the current population of US children.

Using pooled height and weight data gathered from five nationally represented longitudinal studies including more than 40,000 individuals, the authors simulated growth trajectories across the course of life up to 35 years. According to the simulations, the relative risk of adult obesity increased with age and body mass index. For children who are severely obese, the chance they will no longer be obese at age 35 years decreases with age, from 21% at age 2 to 6% at age 19.

1. Ward ZJ, Long MW, Resch SC, Giles CM, Craddock AL, Gortmaker SL. Simulation of growth trajectories of childhood obesity into adulthood. *N Engl J Med*. 2017;377(22):2145-2153.

WOUND HEALING TIED TO CIRCADIAN RHYTHM, STUDY FINDS

The time of day an injury takes place affects the speed of its healing, according to research recently published in *Science Translational Medicine*.¹ Burn wounds incurred during the day healed approximately 60% faster than those that happened at night, researchers in the United Kingdom found.

Fibroblasts, the ubiquitous cells that are integral to wound healing, exhibit circadian timekeeping. Examining protein expression in skin cells, the study authors noted that the intrinsic cellular clock in these cells modulates levels of actin, a protein involved in cell migration and

adhesion. These processes in turn affect the efficacy of wound healing. They subsequently observed in mice that skin wounds incurred during the animals' active phase exhibited increased fibroblast invasion.

These experimental findings correlated with clinical observations of wound recovery in 118 people with burn injuries. The time of injury significantly correlated with the speed of healing, with daytime wounds healing faster than nighttime wounds.

"We suggest that circadian regulation of the cytoskeleton influences wound-healing efficacy from the cellular to the organismal scale," the study authors stated.

1. Hoyle NP, Seinkmane E, Putker M, et al. Circadian actin dynamics drive rhythmic fibroblast mobilization during wound healing. *Sci Transl Med*. 2017;9(415).

ABOUT 20% OF AMERICAN ADULTS STILL USING TOBACCO

The prevalence of cigarette smoking in the United States is declining, but in 2015 approximately 20% of US adults still reported using some type of tobacco product, according to an analysis of data from the US National Health Interview Survey (NHIS). Results of the analysis were published in the *Morbidity and Mortality Weekly Report*.¹

In 2015, 20.1% of those surveyed in the NHIS said they currently used any tobacco product every day or some days. Most of the tobacco users were smokers: 17.6% of those surveyed used any combustible tobacco product, 15.1% used cigarettes, and 3.9% used more than two tobacco products. Among other products, 3.5% used electronic cigarettes; 3.4% used cigars, cigarillos, or filtered little cigars; 2.3% used smokeless tobacco; and 1.2% used regular pipes, water pipes, or hookahs. Tobacco use was higher among men than women.

The NHIS is an annual nationally representative in-person survey of the US civilian population. In 2015, it included more than 33,000 adults aged ≥ 18 years, a 55.2% response rate. In past years, the Centers for Disease Control and Prevention and the Food and Drug Administration have used the National Adult Tobacco Survey to assess national estimates of tobacco use among adults. This is the first year the organizations have instead used the NHIS. ■

1. Phillips E, Wang TW, Husten CG, et al. Tobacco product use among adults - United States, 2015. *MMWR Morb Mortal Wkly Rep*. 2017;66(44):1209-1215.

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