

Facts about Traumatic Brain Injury

What is a traumatic brain injury?

A traumatic brain injury (TBI) is defined as a blow or jolt to the head or a penetrating head injury that disrupts the function of the brain. Not all blows or jolts to the head result in a TBI. The severity of such an injury may range from "mild," i.e., a brief change in mental status or consciousness to "severe," i.e., an extended period of unconsciousness or amnesia after the injury. A TBI can result in short or long-term problems with independent function.

How many people have TBI?

Of the 1.4 million who sustain a TBI each year in the United States:

- ♦ 50,000 die;
- ♦ 235,000 are hospitalized; and
- ♦ 1.1 million are treated and released from an emergency department.¹

The number of people with TBI who are not seen in an emergency department or who receive no care is unknown.

What causes TBI?

The leading causes of TBI are:

- ♦ Falls (28%);
- ♦ Motor vehicle-traffic crashes (20%);
- ♦ Struck by/against events (19%); and
- ♦ Assaults (11%).¹

Blasts are a leading cause of TBI for active duty military personnel in war zones.²



Who is at highest risk for TBI?

- ♦ Males are about 1.5 times as likely as females to sustain a TBI.¹
- ♦ The two age groups at highest risk for TBI are 0 to 4 year olds and 15 to 19 year olds.¹
- ♦ Certain military duties (e.g., paratrooper) increase the risk of sustaining a TBI.³
- ♦ African Americans have the highest death rate from TBI.¹

What are the costs of TBI?

Direct medical costs and indirect costs such as lost productivity of TBI totaled an estimated \$60 billion in the United States in 2000.⁴

What are the long-term consequences of TBI?

The Centers for Disease Control and Prevention estimates that at least 5.3 million Americans currently have a long-term or lifelong need for help to perform activities of daily living as a result of a TBI.⁵

According to one study, about 40% of those hospitalized with a TBI had at least one unmet need for services one year after their injury. The most frequent unmet needs were:

- ♦ Improving memory and problem solving;
- ♦ Managing stress and emotional upsets;
- ♦ Controlling one's temper; and
- ♦ Improving one's job skills.⁶

TBI can cause a wide range of functional changes affecting thinking, language, learning, emotions, behavior, and/or sensation. It can also cause epilepsy and increase the risk for conditions such as Alzheimer's disease, Parkinson's disease, and other brain disorders that become more prevalent with age.^{7,8}

Collaborating Organizations

Brain Injury Association of America

www.biausa.org
800-444-6443

Centers for Disease Control and Prevention

www.cdc.gov
800-311-3435

Defense and Veterans Brain Injury Center

www.dvbic.org
800-870-9244

Health Resources and Services Administration

www.hrsa.gov
301-443-3376

National Association of State Head Injury Administrators

www.nashia.org
301-656-3500

National Brain Injury Research Treatment and Training Foundation

www.nbirrt.org
434-220-4824

National Center for Medical Rehabilitation Research, NICHD, NIH

www.nichd.nih.gov/about/ncmrr
800-370-2943

National Institute on Disability and Rehabilitation Research

www.ed.gov/about/offices/list/osers/nidrr
202-245-7640

National Institute of Neurological Disorders and Stroke, NIH

www.ninds.nih.gov
800-352-9424

North American Brain Injury Society

www.nabis.org
703-960-6500

Social Security Administration

www.ssa.gov
800-772-1213

References

1. Langlois JA, Rutland-Brown W, Thomas KE. Traumatic brain injury in the United States: emergency department visits, hospitalizations, and deaths. Atlanta (GA): Centers for Disease Control and Prevention, National Center for Injury Prevention and Control; 2006.
2. Defense and Veterans Brain Injury Center (DVBIC). [unpublished]. Washington (DC): U.S. Department of Defense; 2005.
3. Ivins BJ, Schwab K, Warden D, Harvey S, Hoilien M, Powell J, et al. Traumatic brain injury in U.S. army paratroopers: prevalence and character. *Journal of Trauma Injury, Infection and Critical Care* 2003;55(4): 617-21.
4. Finkelstein E, Corso P, Miller T and associates. *The Incidence and Economic Burden of Injuries in the United States*. New York: Oxford University Press, 2006.
5. Thurman D, Alverson C, Dunn K, Guerrero J, Sniezek J. Traumatic brain injury in the United States: a public health perspective. *Journal of Head Trauma Rehabilitation* 1999;14(6):602-15.
6. Corrigan JD, Whiteneck G, Mellick D. Perceived needs following traumatic brain injury. *Journal of Head Trauma Rehabilitation* 2004;19(3):205-16.
7. National Institute of Neurological Disorders and Stroke. *Traumatic brain injury: hope through research*. Bethesda (MD): National Institutes of Health; 2002 Feb. NIH Publication No. 02-158. Available from: www.ninds.nih.gov/disorders/tbi/detail_tbi.htm.
8. Ylvisaker M, Todis B, Glang A, et al. Educating students with TBI: themes and recommendations. *Journal of Head Trauma Rehabilitation* 2001; 16:76-93.

