

Teen blood donors have higher risk of donation-related complications

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Sixteen- and 17-year olds who donate blood are significantly more likely to experience donation-related complications such as fainting and bruising than older blood donors, according to a study in the May 21 issue of JAMA.

“The unremitting need and increasing demand for blood components constantly challenges blood centers to maintain a safe and adequate blood supply from a decreasing pool of eligible donors that is now estimated at only 38 percent of the U.S. adult population,” the authors write.

Blood centers have taken a number of steps to recruit more eligible donors, including advocating for state legislation to collect blood from 16- and 17- year-old high school students in states where it is not allowed. In the American Red Cross system between 1996 and 2005, blood collection from donors age 16 to 19 years increased and now accounts for 14.5 percent of annual donations, whereas blood donation by older individuals declined, according to background information in the article. Some data suggest that complications from donations are highest among young donors.

Anne F. Eder M.D., Ph.D., of the American Red Cross, Washington, D.C., and colleagues evaluated adverse reactions to blood donation by 16- and 17-year-olds compared with older donors. Data were from nine American Red Cross blood centers that routinely collect blood donations from 16- and 17-year-olds, a population that provides approximately 80

percent of its donations at high school blood drives. In 2006, nine American Red Cross regions collected 145,678 whole blood donations from 16- and 17-year-olds, 113,307 from 18- and 19-year-olds, and 1,517,460 from donors age 20 years or older.

Complications (such as loss of consciousness, bruising) occurred after 10.7 percent of donations by 16- and 17-year-olds, 8.3 percent of donations by 18- and 19-year-olds, and 2.8 percent by donors age 20 years or older. Sixteen- and 17-year-olds were significantly more likely to experience any loss of consciousness and major complications than 18- and 19-year-old donors or donors age 20 years or older.

Injuries related to fainting were uncommon (86 events among 16- and 17-year-old donors, 5.9 events per 10,000 blood collections), but were 2.5 times more common among 16- and 17-year-old donors compared with 18- and 19-year-olds, and 14 times more likely compared with donors age 20 years or older. Almost half of all injuries occurred in 16- and 17- year-old donors; and many episodes (such as those involving concussion, laceration requiring stitches, dental injuries, broken jaw) were severe enough to require outside medical care.

Sixteen-year-old donors who experienced even a minor complication were 60 percent less likely to return to donate within 12 months than 16-year-olds who experienced uncomplicated donations (52 percent vs. 73 percent return rate). “Consequently, any negative experience diminishes the likelihood of return blood donation, and increases the possibility that a short-term yield in donations incurs the ultimate expense of deterring future blood donation by young donors. These findings are particularly pertinent at a time when blood centers are becoming increasingly reliant on young donors to maintain an adequate blood supply,” the researchers write.

“These data on common and infrequent complications of blood donation

should be considered when age limits are deliberated by state authorities. The relatively comparable reaction rates in 16- and 17-year-old donors, and their increased complication rates compared with young adults and adults, suggest the need for a consistent approach. Blood centers have an obligation to constantly monitor risks of blood donation and to make a concerted and committed effort to achieve the lowest possible rate of complications. Although zero risk may not be attainable even in adults, the rate of complications in minors calls for ongoing attention to a sustained operational effort that is continually focused on donation safety,” the authors conclude.

Source: JAMA and Archives Journals

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