

【挑战TIME】16期：Why Banked Blood Goes Bad? PDF转换可能丢失图片或格式，建议阅读原文

https://www.100test.com/kao_ti2020/278/2021_2022__E3_80_90_E6_8C_91_E6_88_98T_c81_278643.htm 【Introduction】输送血液可以称为生命的礼物。然而，从每年5百万输血病人的大部分情况来看，实际上，输血弊大于利。【Section One

】Articlescreen.width-333)this.width=screen.width-333" border=0 dyppop="按此在新窗口浏览图片">Why Banked Blood Goes BadIt's a problem that doctors have been wrestling with for several years, as study after study shows a disturbing spike in heart disease and death in patients receiving transfusions. The trend affects almost every group of critically ill patients from trauma sufferers in the ER to heart attack victims, patients with anemia and those undergoing chemotherapy. This increase in death and heart disease, doctors say, is unrelated to infectious blood-borne diseases or allergic reactions that often follow transfusions. "After you control for sickness and all sorts of things, patients who receive transfusions still have more heart attacks. It makes no sense," says Dr. Jonathan Stamler, a professor of medicine at Duke University Medical Center. Logically, and medically, patients who need transfusions those with low blood counts should benefit immediately from a transfusion of new oxygen-laden red blood cells. Yet many get sicker. Puzzled by the paradox, Stamler and his colleagues decided to look more closely at banked blood to figure out whether it underwent certain changes that turned it from life-saving in the donor to potentially deadly in the bag. Their finding, reported this week in the Proceedings of the

National Academy of Sciences: nitric oxide (NO). A workhorse of the blood, the gas helps red blood cells ferry oxygen to tissues and props open tiny vessels to allow freer blood flow. It turns out that within hours of leaving the body, levels of nitric oxide in the blood begin to drop, until, by the time donated blood expires after 42 days, the gas is almost nonexistent. "The reality is that we are giving blood that cannot deliver oxygen properly," says Stamler, lead author of the study. "Many patients who are getting blood are being put at increased risk." Previous trials have shown that heart disease patients, for example, who receive a blood transfusion to help restore oxygen to deprived tissues, have a 25% chance of having a heart attack and an 8% chance of dying within 30 days. Similar patients who do not get transfused have an 8% chance of a cardiac event and a 3% chance of death. Stamler hypothesizes that without NO, red blood cells cannot drill their way into tiny blood vessels. Rather, they pile up in narrow passageways, blocking blood flow instead of increasing it and hampering the heart. Blood transfusions alone may not be directly responsible for these health hazards, but data from other recent studies have been enough to convince physicians to change their so-called transfusion trigger. Doctors have traditionally waited until the patient's hematocrit—the proportion of the blood made up of red blood cells—drops below the normal range of 45% to 55% before transfusing. Now, doctors prefer to wait longer, until it falls below 30%. "There is still a lot of controversy about the trigger," says Dr. Lynne Uhl, a transfusion specialist at Beth Israel Deaconess Hospital, "but the growing data has reinforced the practice that it's okay to let

the patients hematocrit 0drop lower before transfusing."Wouldnt it be more effective if banked blood could simply be improved? Stamlers study suggests it can: by replacing nitric oxide in stored blood, Stamler showed that the risk of heart attack and death from transfusion 0dropped dramatically, at least in mice. And theres reason to believe such replenishment could work in human patients as well. already, premature babies born with lung and respiratory problems are placed in NO-rich environments to ensure that their still developing tissues get the oxygen they need to grow properly. For now, the American Red Cross, which oversees 14 million units of banked blood, is waiting for additional study results before changing any of its processing and storage practices. 【Section Two】 Vocabulary 1. transfusionn. 注入, [医]输血, 输液 2. criticallyadv. 批评地, 用钻研眼光地, 精密地, 危急地 3. infectiousadj. 有传染性的, 易传染的, 有感染力的 4. allergic adj. [医]过敏的, 患过敏症的 5. paradoxn. 似非而是的论点, 自相矛盾的话 6. controversyn. 论争, 辩论, 论战 【Section Three】 Related Articles 1. Pollution: Dangerous to Joggers 2. Should You Be Tested? 【Section Four】 Homework 1. Please translate the blue sentence into Chinese. "Logically, and medically, patients who need transfusions those with low blood counts should benefit immediately from a transfusion of new oxygen-laden red blood cells. Yet many get sicker." 2. What is the main idear of this Article? 3. The article mentioned "The heart disease patients, who receive a blood transfusion to help restore oxygen to deprived tissues, have a 8% chance of having a heart attack and an 25% chance of dying within

30 days" Right? Why? 4. How to effectively improve the banked blood?答案:1. 按道理,从医学上来说,因血球少而需要输血的病人应该很快就从血里的携氧红血球获得益处。而实际上,很多病人病得更严重。(翻译的不好,仅供参考) 2. No standard answer.3. False. The correct answer: "Previous trials have shown that heart disease patients, for example, who receive a blood transfusion to help restore oxygen to deprived tissues, have a 25% chance of having a heart attack and an 8% chance of dying within 30 days". 4. By replacing nitric oxide in stored blood. 100Test 下载频道开通,各类考试题目直接下载。详细请访问 www.100test.com