



Biomarkers for Assessing and Managing Iron Deficiency Anemia in Late-Stage Chronic Kidney Disease: Comparative Effectiveness Review Number 83

U. S. Department of Health and Human Services, Agency for Healthcare Research and Quality

[Download now](#)

[Click here](#) if your download doesn't start automatically

Biomarkers for Assessing and Managing Iron Deficiency Anemia in Late-Stage Chronic Kidney Disease: Comparative Effectiveness Review Number 83

U. S. Department of Health and Human Services, Agency for Healthcare Research and Quality

Biomarkers for Assessing and Managing Iron Deficiency Anemia in Late-Stage Chronic Kidney Disease: Comparative Effectiveness Review Number 83 U. S. Department of Health and Human Services, Agency for Healthcare Research and Quality

Chronic kidney disease (CKD) is the gradual, progressive deterioration of kidney function leading to a toxic accumulation of wastes inside the body, which in turn gives rise to complications such as high blood pressure, decreased bone health, nerve damage, and anemia. The most common causes of CKD are diabetes and hypertension, though others include glomerulonephritis, inherited diseases such as polycystic kidney disease, congenital malformations of the kidney, autoimmune disorders such as lupus, and mechanical obstructions and chronic infections of the urinary tract. CKD patients are classified as having progressed to one of five stages, depending on the severity of their condition (CKD stage 1-5). When CKD progresses to its end stage (stage 5), dialysis or kidney transplantation become necessary. CKD currently affects an estimated 26 million American adults, with a far higher number considered at risk. In addition to the significant detriment to the physical, mental, and social health of patients and their families that it poses, CKD comprises a tremendous individual and global financial burden. A common complication of CKD is anemia, which results from inadequate erythropoietin or from iron deficiency as a result of inadequate absorption or mobilization. The management of anemia in CKD patients must strike an appropriate balance between stimulating generation of erythroblasts (erythropoiesis) and maintaining sufficient iron levels for optimum hemoglobin (Hb) production. Erythropoietic stimulating agents (ESAs) mobilize iron stores in promoting erythropoiesis; however, decreased iron stores or iron availability are the most common reasons for resistance to the effect of ESAs. Thus, most patients who receive ESA treatment will require supplemental (oral or intravenous) iron to ensure an adequate response with erythropoietic agents. Iron management, therefore, is an essential part of the treatment of anemia associated with CKD, as there remain outstanding concerns regarding the adverse effects associated with elevated doses of ESAs and supplemental iron. Assessing iron status is integral to both iron and anemia managements in CKD patients. Bone marrow iron stores are often regarded as the best indicator of iron status (although this is not universally accepted); however, taking a bone marrow sample is invasive and involves risks of infection or bleeding at the biopsy site. Other classical iron status tests, of which ferritin and transferrin saturation (TSAT) are the most widely used, reflect either the level of iron in tissue stores or the adequacy of iron for erythropoiesis. Serum ferritin reflects storage iron—iron that is stored in liver, spleen, and bone marrow reticuloendothelial cells. The TSAT percentage value reflects iron that is readily available for erythropoiesis. Guidelines on monitoring iron status stipulate that hemodialysis (HD) patients receiving erythropoietin should have their iron status monitored every 3 months, and maintain a transferrin saturation (TSAT) >20 percent and a serum ferritin level >100 ng/mL (>200 ng/mL for CKD patients on HD). Although a number of international guidelines have examined the use of both classical and new serum iron biomarkers, their recommendations differ. Across guidelines, it is agreed that the optimal management of anemia in HD patients depends on diagnosis and management of iron deficiency. In view of the considerable clinical uncertainty, the high biological variability associated with laboratory biomarkers, and the need for frequent assessment of iron status to guide treatment for anemia, a systematic review of the relevant literature is a priority. The purpose of this review is to evaluate the impact on patient-centered outcomes of the use of newer versus classical laboratory biomarkers of iron status as part of the management strategy for anemia in patients with CKD stages 3–5, that is, nondialysis or dialysis patients with CKD or kidney-transplant patients.

 [Download Biomarkers for Assessing and Managing Iron Deficie ...pdf](#)

 [Read Online Biomarkers for Assessing and Managing Iron Defic ...pdf](#)

Download and Read Free Online Biomarkers for Assessing and Managing Iron Deficiency Anemia in Late-Stage Chronic Kidney Disease: Comparative Effectiveness Review Number 83 U. S. Department of Health and Human Services, Agency for Healthcare Research and Quality

From reader reviews:

Dawn Campbell:

The book Biomarkers for Assessing and Managing Iron Deficiency Anemia in Late-Stage Chronic Kidney Disease: Comparative Effectiveness Review Number 83 can give more knowledge and information about everything you want. Why must we leave a good thing like a book Biomarkers for Assessing and Managing Iron Deficiency Anemia in Late-Stage Chronic Kidney Disease: Comparative Effectiveness Review Number 83? Several of you have a different opinion about e-book. But one aim in which book can give many details for us. It is absolutely proper. Right now, try to closer with your book. Knowledge or details that you take for that, it is possible to give for each other; it is possible to share all of these. Book Biomarkers for Assessing and Managing Iron Deficiency Anemia in Late-Stage Chronic Kidney Disease: Comparative Effectiveness Review Number 83 has simple shape nevertheless, you know: it has great and big function for you. You can appearance the enormous world by open up and read a book. So it is very wonderful.

Latonya Sams:

Book is to be different per grade. Book for children till adult are different content. We all know that that book is very important for all of us. The book Biomarkers for Assessing and Managing Iron Deficiency Anemia in Late-Stage Chronic Kidney Disease: Comparative Effectiveness Review Number 83 seemed to be making you to know about other information and of course you can take more information. It is rather advantages for you. The publication Biomarkers for Assessing and Managing Iron Deficiency Anemia in Late-Stage Chronic Kidney Disease: Comparative Effectiveness Review Number 83 is not only giving you considerably more new information but also for being your friend when you really feel bored. You can spend your current spend time to read your e-book. Try to make relationship with all the book Biomarkers for Assessing and Managing Iron Deficiency Anemia in Late-Stage Chronic Kidney Disease: Comparative Effectiveness Review Number 83. You never really feel lose out for everything if you read some books.

Richard Pascual:

The book untitled Biomarkers for Assessing and Managing Iron Deficiency Anemia in Late-Stage Chronic Kidney Disease: Comparative Effectiveness Review Number 83 contain a lot of information on the item. The writer explains your girlfriend idea with easy method. The language is very clear and understandable all the people, so do definitely not worry, you can easy to read the item. The book was published by famous author. The author brings you in the new era of literary works. You can easily read this book because you can continue reading your smart phone, or program, so you can read the book within anywhere and anytime. If you want to buy the e-book, you can start their official web-site along with order it. Have a nice read.

Deon Henderson:

As we know that book is vital thing to add our knowledge for everything. By a reserve we can know

everything we wish. A book is a set of written, printed, illustrated or perhaps blank sheet. Every year ended up being exactly added. This guide Biomarkers for Assessing and Managing Iron Deficiency Anemia in Late-Stage Chronic Kidney Disease: Comparative Effectiveness Review Number 83 was filled with regards to science. Spend your extra time to add your knowledge about your science competence. Some people has several feel when they reading the book. If you know how big benefit of a book, you can experience enjoy to read a guide. In the modern era like currently, many ways to get book that you wanted.

Download and Read Online Biomarkers for Assessing and Managing Iron Deficiency Anemia in Late-Stage Chronic Kidney Disease: Comparative Effectiveness Review Number 83 U. S. Department of Health and Human Services, Agency for Healthcare Research and Quality #TE4NLSAG96D

Read Biomarkers for Assessing and Managing Iron Deficiency Anemia in Late-Stage Chronic Kidney Disease: Comparative Effectiveness Review Number 83 by U. S. Department of Health and Human Services, Agency for Healthcare Research and Quality for online ebook

Biomarkers for Assessing and Managing Iron Deficiency Anemia in Late-Stage Chronic Kidney Disease: Comparative Effectiveness Review Number 83 by U. S. Department of Health and Human Services, Agency for Healthcare Research and Quality Free PDF download, audio books, books to read, good books to read, cheap books, good books, online books, books online, book reviews epub, read books online, books to read online, online library, greatbooks to read, PDF best books to read, top books to read Biomarkers for Assessing and Managing Iron Deficiency Anemia in Late-Stage Chronic Kidney Disease: Comparative Effectiveness Review Number 83 by U. S. Department of Health and Human Services, Agency for Healthcare Research and Quality books to read online.

Online Biomarkers for Assessing and Managing Iron Deficiency Anemia in Late-Stage Chronic Kidney Disease: Comparative Effectiveness Review Number 83 by U. S. Department of Health and Human Services, Agency for Healthcare Research and Quality ebook PDF download

Biomarkers for Assessing and Managing Iron Deficiency Anemia in Late-Stage Chronic Kidney Disease: Comparative Effectiveness Review Number 83 by U. S. Department of Health and Human Services, Agency for Healthcare Research and Quality Doc

Biomarkers for Assessing and Managing Iron Deficiency Anemia in Late-Stage Chronic Kidney Disease: Comparative Effectiveness Review Number 83 by U. S. Department of Health and Human Services, Agency for Healthcare Research and Quality Mobipocket

Biomarkers for Assessing and Managing Iron Deficiency Anemia in Late-Stage Chronic Kidney Disease: Comparative Effectiveness Review Number 83 by U. S. Department of Health and Human Services, Agency for Healthcare Research and Quality EPub