

# Patient Blood Management: Future Perspective in Korea

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Blood transfusion is an essential medical procedure that can save a patient's life. But, in the near future, it is anticipated that blood transfusion products will be lacking in Korea. Patient Blood Management (PBM) is an evidence-based, multi-disciplinary approach to optimizing the care of patients who might need transfusion. This goal is fulfilled by clinically managing or preserving the patient's own blood instead of imprudently resorting to allogeneic blood. It can be said that Korea just begun the journey toward the PBM implementation. However, strong support from the government and endeavors from professional societies will make rapid and substantial success in implementation of PBM in Korea.

**Key words:** Patient blood management; Korea; Perspective

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## THE NECESSITY FOR PBM PROGRAM IN KOREA

Blood transfusion is an essential medical procedure that can save the patient's life. But, it is anticipated that blood transfusion products will be lacking in Korea in the near future. This is due to the fact that eligible blood donors—the young population—are decreasing, whereas blood recipients—the elderly population—are increasing. Low birth rate and aging society have become big social problems in Korea recently. Korea's birth rate is the lowest among OECD countries, which is 1.17 in 2016 [1]. The elderly population aged 65 or older is 13.8% in 2017 and it is expected to be over 20% in 2026, becoming a super-aged society. Aging populations present higher risks of malignancies and chronic diseases; and are more likely to require complex surgical interventions [2].

If unnecessary blood transfusions are to be decreased, we would be able to prevent waste of precious blood resources and to save significant amount of healthcare costs [3]. In Australia, the NBA estimated that a 5% reduction in RBC use would result in a national saving of AUD14.6 million [4]. Beyond the economic savings, this also means ameliorating blood transfusion related risks to the patients. Blood transfusion is still not free of the risks of complications

such as infection and immunomodulation, although they are dramatically decreased through the advances in transfusion medicine. Furthermore, this is providing the best care to the patients because it is now well known that transfusion may lead to poorer patient outcomes, such as survival rates [5-7]. So, increasing the adequacy of blood transfusion is the strategy for not only preventing wastage of precious blood resources and blood shortage, but also providing patients with the best treatments by decreasing risk of complications.

## PBM IMPLEMENTATION STATUS IN KOREA

### 1. Scientific societies for PBM in Korea

1) The Korean Society for Patient Blood Management (KPBM)  
KPBM is based on the Korean Research Group for Patient Blood Management, which was established in 2014 [8]. The goals of KPBM are to optimize blood transfusion and maximize patient safety through multidisciplinary transfusion therapy based on scientific evidence. It holds workshops and academic conferences every year.

## 2) The Korean Society for Blood Transfusion (KSBT)

KSBT was established in 1982 with the purpose of “exchanging academic knowledge and foster friendship among members in order to establish academic research on blood transfusion and related studies and establish safer and more effective blood transfusion therapies” [9]. Members of KSBT is doctors specializing in laboratory medicine, internal medicine, pediatrics, anesthesiology, and surgeons, medical technologists and nurses working at blood banks. In 2016, KSBT has formed a special PBM committee for the implementation of PBM in Korea.

## 2. Government Initiatives

### 1) National Transfusion guidelines

In 2009, the Ministry of Health and Welfare (The Centers for Disease Control and Prevention) and The Korean Society for Blood Transfusion published the first edition of the national transfusion guideline. It has been revised several times and the fourth edition was published in 2016 [10]. The guideline has several characteristics. “Clinical situations to which Laboratory Transfusion Triggers are Not Applicable” is presented to emphasize that it is important not to depend on laboratory data only. And “Alternatives to transfusion” is presented to prevent inappropriate blood use. It is noteworthy that the PBM concept has been incorporated in the transfusion guideline with the active participation of KPBM members.

Applying evidence-based transfusion criteria can reduce unnecessary blood transfusions. For example, 10 g/dL of hemoglobin was used as a reference for blood transfusion in the past. However, many studies have shown that it should be reduced to 7–8 g/dL because of equal or even better patient outcomes such as morbidity and survival rate compared to liberal transfusion [6]. Of course, whether or not to transfuse should be determined by considering the clinical signs, symptoms, and tolerance and compensatory ability of each patient, and should not be judged simply by hemoglobin level.

### 2) Support for PBM Implementation

The Korea Ministry of Health and Welfare has carried out the project of “Establishment of mid- to long-term development plan for Korean blood business” through research outsourcing in 2015. In the final report, the government showed great interest in activating PBM as one of the fundamental solutions to solve the expected problem of transfusion blood shortage [11].

## CONCLUSION

PBM is an evidence-based, multidisciplinary approach to optimizing the care of patients who might need transfusion [12]. This goal is fulfilled by clinically managing or preserving the patient’s own blood instead of recklessly resorting to allogeneic blood. WHO formally recognized the importance of PBM and recommended PBM to its 193 member states in May 2010 [13]. Although the purpose of the PBM strategy is widely accepted, actual implementation has been slow even in Europe and Canada, where PBM has been practiced for many years [14,15].

It can be said that Korea has just begun the journey toward the PBM implementation. However, strong support from the government and endeavors from medical professions will make rapid and substantial implementation of PBM in Korea.

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