

HBOC-201 would reduce the national blood requirements for trauma patient orthopedic surgery.

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**Keywords:** adverse events; blood pressure; blood substitutes; hemoglobin; Hemopure; orthopedics; oxygen carriers; packed red blood cells; surgery; transfusions; trauma

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#### Autologous Fibrin Glue: Synthesis and Application

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The idea of treating injured parts of the human body with simple gluing dates back to ancient times. Sparked by the research of J.J. Park and U.S. Weis-Fogh, this study focuses on the synthesis of the two components of an autologous fibrin glue.

The aim of this review is to demonstrate how a sufficient amount of both components of the fibrin glue can be acquired from small amounts of blood from the surgical patient. The first component, fibrinogen, can be obtained according to the modified Cohn-method using ethanol and freezing. The second component, thrombin, can be extracted by means of chemical precipitation with acid.

The synthesis of autologous fibrin glue is quick, simple, and inexpensive; and it has been shown to rapidly heal the surgical wounds of patients. Most important, with the application of autologous fibrin glue, there is no risk for transmission of blood-borne diseases or other undesired side effects.

**Keywords:** advantages; application; autologous fibrin glue; blood-borne diseases; glue; healing; side effects; synthesis; wounds, surgical

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#### Self-Sufficiency: The Present Method of Blood Supply for Slovenia

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Immediately after World War II, transfusion institutions were established in Slovenia: the first was in Ljubljana, and others followed at larger hospitals. Ever since our establishment, we have been demonstrating our self-sufficiency. Even in our past history, we have marched as equals alongside our colleagues from Europe and America, which has been documented by our decades of experience and our achievements.

**Keywords:** self-sufficiency; Slovenia; transfusion institutions

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#### WHO Approach to Quality and Safety: The WHO Quality Management Programme for Blood Transfusion Services

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**Objective:** Quality management in all areas of blood transfusion is crucial for the provision of a safe and adequate blood supply. In 2000, the World Health Organization (WHO) launched an innovative global programme, "Quality Management Programme (QMP) for Blood Transfusion Services" in order to assist and support Member States in the development of quality systems for blood transfusion services.

**Methods:** The QMP has been developed as a long-term programme in collaboration with WHO Regions, Collaborating Centres, and Experts in Transfusion Medicine. The major components of QMP are: (1) Identification and strengthening of regional quality training centers; (2) Organization of Quality Management Training (QMT) courses with a well-structured curriculum; (3) Development of advocacy, training, and learning materials to support the implementation of the programme; (4) Establishment of external quality assessment schemes (EQAS); and (5) Creation of effective quality networks. Activities in this programme have been carried-out in all of the WHO regions since 2000.

**Results:** Consultations for the planning and evaluation of QMP were conducted in 2000. Global endorsement and support was obtained from the WHO Regions as well as from the experts. Implementation of QMP includes training of blood transfusion staff as quality managers with responsibility for establishing quality systems at national level. Regional quality training centres, each with dedicated QMT coordinators, have been identified as focal points for this network. Key achievements in this programme have been: (1) The conduct of 20 QMT courses in three years (2) Training of 65 global and regional facilitators; (3) Training of 350 quality managers from 121 countries; (4) Introduction of the programme to 240 directors of blood transfusion services; and (5) Increased participation of centres, now 257, in WHO-EQA Schemes.

**Conclusion:** The establishment and implementation of quality management systems in blood transfusion services through this collaborative programme will lead to improvements in the safety, adequacy, and quality of blood for all patients requiring blood transfusion. This will be a major step towards achieving the ultimate goal of global blood safety.

**Keywords:** advocacy; blood; centers; consultation; management; networks; quality; safety; systems; training; transfusion; WHO

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