

PPT3**COST-EFFECTIVENESS OF TRANSFUSING PLATELET COMPONENTS PREPARED WITH PATHOGEN INACTIVATION TREATMENT IN ORTHOPEDIC SURGERY IN THE UNITED STATES**Gao X¹, Botteman MF¹, Weissfeld JL², Pashos CL³, Triulzi D⁴, Staginnus U⁵¹Abt Associates Clinical Trials, Bethesda, MD, USA; ²University of Pittsburgh, Pittsburgh, PA, USA; ³Abt Associates Clinical Trials, Cambridge, MA, USA; ⁴The Institute for Transfusion Medicine, Pittsburgh, PA, USA; ⁵Baxter, S.L, Madrid, Spain

OBJECTIVE: The INTERCEPT Blood System (IBS) for platelets has been developed to reduce pathogen transmission risks during platelet transfusions. This study assessed the cost-effectiveness of using single-donor platelets (SDP) and random-donor platelets (RDP) processed with a pathogen inactivation treatment (SDP+IBS and RDP+IBS) during orthopedic surgery, which accounts for approximately 10% of platelets usage in the U.S. **METHODS:** A decision-analytic model was developed to simulate the possible transfusion-related events and outcomes in three reference patients: a female aged 60, 70, or 80 years, and undergoing a total hip arthroplasty. Avoidance of pathogen exposure to HIV, HCV, HBV, HTLV-I, and transfusion-related sepsis (TRS) was incorporated in the model. Clinical outcomes were measured by quality adjusted life-year gained (QALYs). The direct medical costs of IBS and transfusion-related complications were incorporated in the baseline model. No indirect costs (e.g., work productivity losses) or transfer costs (litigation) were considered. Possible benefit on reducing emerging pathogens risk was explored by incorporating a hypothetical HCV-like pathogen into sensitivity analyses. **RESULTS:** The incremental cost per QALY gained of using SDP+IBS vs. untreated SDPs, ranged from \$1,686,000 (at age 60)–\$3,362,000 (at age 80). Corresponding figures for RDP+IBS vs. RDPs, ranged from \$642,000–\$1,404,000. Inclusion of an emerging pathogen benefit significantly improved the cost effectiveness to \$423,000–\$1,304,000 for SDP and \$66,000–\$237,000 for RDP. Sensitivity analysis showed that results were most sensitive to reductions in platelet yield and case fatality rate from bacteria contamination, but less sensitive to viral transmission risks. **CONCLUSIONS:** The cost-effectiveness of IBS in orthopedic surgery patients appears to be comparable to that of other widely accepted blood safety interventions (e.g. NAT testing). Therefore, pathogen inactivation with the IBS for platelets should be considered to be a relatively cost-effective strategy to improve the safety of platelet transfusions and a potential insurance against the threat of emerging pathogens.

PPT4**THE ECONOMIC IMPACT OF NOVOSEVEN® IN STEM CELL TRANSPLANTATION IN GERMANY AND THE UNITED STATES**Hart WM¹, Dangata Y²¹EcoStat Consulting Group, Madrid, Spain; ²EcoStat Consulting UK, Northrepps, Norfolk, United Kingdom

OBJECTIVES: In the last 25 years, the number of clinical conditions Stem Cell Transplantation (SCT) is used as a therapeutic intervention has been growing remarkably. The emphasis in this study is on the management, resources and economics of bleeding associated with SCT in Germany and the United States, and the understanding of the potential economic impact of NovoSeven® in the management of such bleed. **METHODS:** A detailed literature review was undertaken on bleeds associated with SCT. Additional data were obtained from clinicians at two leading SCT centres in Germany and one in the United States. Resource utilisation, outcomes and cost data were obtained from multiple sources including the participating clinicians, local economists and personal communications. Economic modelling techniques were used to assess the potential impact of the addition of NovoSeven® on current management practices. **RESULTS:** In Germany, autologous, allogenic (family related), and allogenic (un-related) SCT cost on average €83,302, €115,954 and €172,522, respectively. The corresponding costs in the United States are: \$84,583, \$202,474, and \$303,159. Costs in the United States are generally higher than in Europe. The additional costs of bleeds depend on bleed site and severity. In Germany the baseline costs of gastrointestinal and intracranial bleeds are €32,085 and €8,684 respectively, with the addition of NovoSeven® and associated reduction in the use of other health care resources costs were €32,431 and €14,057. In the USA, the costs of bleeds vary from \$5,718 to \$209,910. The additional cost of NovoSeven® may be compensated for by a reduction in the use of blood products and inpatient hospitalisation. **CONCLUSIONS:** Our results suggest that NovoSeven® might lead to cost savings in certain bleeds. However, given the limited number of bleeds managed with NovoSeven® in the present study these results should be interpreted with caution.

PPT5**LONG TERM COST OF ILLNESS STUDY FOR SEVERE HEMOPHILIC CHILDREN IN TORONTO**Heemstra H¹, Zwaan T¹, Kern M², Feldman B², Blanchette V², Hemels MEH³, Einarson TR³¹Utrecht University, Utrecht, Netherlands; ²Hospital for Sick Children, Toronto, ON, Canada; ³University of Toronto, Toronto, ON, Canada

OBJECTIVES: Treatment of severe hemophilia patients has considerable economic implications, especially with