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| Study &  Name of Scale | Study Design | Number of Participants | Population Characteristics | Study Conclusions | Description of tool |
| Arnold et al.  HEME Tool1 | Prospective Cohort | 100 | Adult patients admitted to the medical-surgical ICU | 1 out of 5 ICU patients experienced major bleed and HEME tool can be useful tool to assess bleeding in critically ill adults. | Bleeding episodes characterized by site and severity (either fatal, major bleeding, or minor bleeding). Includes blood pressure, heart rate and drop in hemoglobin as physiologic variables. Reports inter-rater reliability and relationship of major bleeding to outcomes. |
| Blanchette et al.11 | Randomized controlled trial | 53 | Children with acute ITP randomized to receive intravenous immunoglobulin, steroids or no treatment | Improvement of thrombocytopenia was faster with IVIG treatment than prednisone or no treatment. | Bleeding classified as moderate or severe based on site, extent and need for intervention. No validation reported. |
| Bolton-Maggs et al.17 | Prospective Cohort | 427 | Children (birth to 16 years of age) presenting with newly diagnosed ITP (both inpatient and outpatient) | Bleeding was clinically mild in the majority of cases with no deaths or intracranial hemorrhages despite severe thrombocytopenia in many children | Physicians rated bleeding as mild (bruising, petechiae, occasional epistaxis, little daily interference), moderate (mucosal lesions, epistaxis, menorrhagia) or severe (bleeding requiring hospital admission or transfusion). No validation reported. |
| Buchanan et al.12 | Randomized controlled trial | 27 | Children (outpatient) with ITP randomized to receive prednisone or placebo | Prednisone did not improve hemostasis in children with acute ITP as compared to placebo. | Bleeding graded from 1-4 based on appearance and effect on hemoglobin. No validation reported. |
| Connolly et al.13 | Randomized controlled trial | 18,113 | Outpatient adults with atrial fibrillation and risk of stroke (randomized to receive warfarin versus dabigatran) | Dabigatran (110mg) associated with similar rates of stroke and systemic embolism as those associated with warfarin and lower rates of major hemorrhage. | Life threatening, major bleeding and minor bleeding defined involving site, severity and need for interventions. No validation reported. |
| Dean et al.  ISTH and HSC criteria22 | Case control | 158 | Outpatient children registered with Bleeding Disorders Clinic, relatives of these children, and healthy controls | Significantly more children classified as “bleeders” using the Hospital for Sick Children (HSC) criteria | Comparison of criteria for significant mucocutaneous bleeding by a consensus of the ISTH and HSC. Each criteria addresses site, timing and/or required interventions. Reported inter-rater reliability for each separate list of criteria (ISTH and HSC). |
| Graafsma et al.  Bleeding Severity Index14 | Randomized Controlled Trial (Tasman Trial) | 58 | Adults receiving low molecular weight versus standard unfractionated heparin for initial treatment of deep venous thrombosis | Bleeding criteria for major bleeding are reproducible and clinically relevant but criteria for minor bleeding are not. | Events classified as major bleeding, minor bleeding, or no bleeding based on site, signs and need for intervention. Event then graded for severity and predicted clinical impact. Inter-rater and intra-rater reliability reported. |
| Khellaf et al.18 | Prospective Cohort | 60 | Patients (ages 16 years and older) admitted with ITP | Therapeutic interventions based on bleeding score, rather than platelet count, was safe and spared exposure of patients to IVIg. | Score based on seven domains (one age-related and remainder based on site of bleeding) and assigned number based on severity within each domain. Includes hemoglobin as physiologic variable. No validation provided. |
| Lacey et al.19 | Prospective Cohort | 82 | Adults with thrombocytopenia of various etiologies | Risk of major bleeding is minimal with platelet count > 10,000 | Bleeding scored as 0-4 with little detail. No validation reported. |
| Medeiros et al.25 | Retrospective Cohort | 332 | Children with ITP | 17% of children with ITP had major hemorrhage. | Bleeding defined as major based on site, intervention or effect on hemoglobin. No validation reported. |
| Nevo et al.5 | Prospective Cohort | 1,402 | 294 pediatric patients, 1,108 adult patients admitted to the hospital for BMT (1986-1995) | Bleeding was associated with reduced survival in BMT and bleeding intensity correlated with survival estimates | Severity of bleeding graded on a 5-point scale and also listed according to site. Assignment of moderate and severe scores reviewed by second evaluator and concordance reported. Scoring criteria did not differ between children and adults. No validation reported. |
| NCI Toxicity Criteria8 | Expert Consensus Statement | NA | NA | NA | Grades severity of bleeding on scale of 0-4 with little detail. No validation reported. |
| Page et al.  ITP Bleeding Score20 | Prospective Cohort | 65 | Outpatients with ITP. Primarily adults with chronic ITP but did include 20 patients < 18 yrs old | ITP bleeding score useful for monitoring bleeding in ITP patients. | 11 site specific grades, the severity of each site rated on a scale from 0-2. Inter-rater reliability reported for each anatomic site. |
| Rebulla et al.15 | Randomized clinical trial (Platelet Transfusion Trigger Trial) | 276 | Adolescents and adults age 16 yr to 70 yrs (median age= 51) with acute myeloid leukemia admitted to the hospital for induction chemotherapy | Risk of major bleeding in induction chemotherapy is similar with platelet transfusion thresholds of either >10 or >20 x109 cells/L | Severity of bleeding graded on an 8-point scale. No validation provided. |
| Rodeghiero et al.23 | Case Control | 341 | Outpatient adults and children who had von Willebrand disease, were obligate carriers or healthy controls | At least 3 hemorrhagic symptoms can distinguish VWD obligate carriers and controls. | Defines 10 different symptoms of bleeding, with the severity of each scored from 0-3. No validation provided. |
| Slichter et al.16 | Randomized Controlled Trial (PLADO) | 1351 | Inpatient adults undergoing hematopoietic stem-cell transplantation or chemotherapy randomized to low dose, medium dose or high dose platelets | When prophylactic transfusions are given for hypoproliferative thrombocytopenia, platelet dose has no effect on the incidence of bleeding. | Bleeding categorized into 8 sites and severity graded from 0-4. No validation provided. |
| Venkatesh et al.  NeoBAT21 | Prospective Cohort Study | 146 | Neonates admitted to NICU | Duplicate assessments of major bleeds were highly correlative between clinical staff, Needs to be correlated to clinical outcomes. | Creation of a new bleeding assessment tool for neonatal population, adapted and modified from the WHO bleeding score. Includes site, severity and duration of bleeding events. Includes hypotension and hemodynamic instability as variables but not defined. Inter-rater reliability reported. |
| Webert et al.  Bleeding Severity Measurement Scale (BSMS)24 | Case Control | 78 | Adults (both inpatient and outpatient) with chemotherapy induced thrombocytopenia (CIT), compared with healthy controls | BSMS had excellent intra-rater and inter-rater reliability and correlated with the WHO bleeding scale. | Defines seven sites of bleeding and each assessed with three grades. Includes heart rate and blood pressure as physiologic variables. Reported validation extensively. |
| White et al.  Bleeding Assessment Tool2 | Prospective Cohort | 405 | Children < 18 yrs old admitted to PICU without clinically relevant bleeding (CRB) on admission. | CRB developed in 9.1% of admissions. CRB associated with longer time to discharge from PICU and hospital. | Documents site of bleed and then classifies each site based on ISTH criteria for major, clinically relevant non-major and minor bleeds. Inter-rater reliability reported. Some outcomes reported. |
| WHO scale7 | Based on consensus statement from experts | NA | NA | NA | Bleeding graded on scale of 0-4 with little detail and no site specificity. No validation reported. |