

BLEEDING DISORDER TREATMENTS: HEMOPHILIA A (Part 1 of 4)

Brand	Strength	Form	Dose
ANTIHEMOPHILIC FACTOR VIII¹			
Advate	250 IU, 500 IU, 1000 IU, 1500 IU, 2000 IU, 3000 IU	pwd for IV inj after reconstitution	Adults and Children: Dose (IU) = Body Weight (kg) × Desired % Factor VIII Increase × 0.5. <i>Hemorrhage (Mild):</i> obtain 20–40% FVIII increase every 12–24hrs for 1–3 days until resolved; (<i>Moderate</i>): obtain 30–60% FVIII increase every 12–24hrs for 3 days or until resolved; (<i>Major</i>): obtain 60–100% FVIII increase every 8–24hrs until resolved. <i>Peri-op:</i> <i>Minor:</i> obtain 60–100% FVIII increase as single bolus within 1hr of surgery, then every 12–24hrs as needed; (<i>Major</i>): pre- and post-op: obtain 80–120% FVIII increase; give pre-op and maintenance bolus, then repeat every 8–24hrs based on healing. <i>Routine prophylaxis:</i> 20–40 IU/kg every other day (3–4 times weekly), or may give every 3rd day. Max infusion rate 10mL/min.
Adynovate	250 IU, 500 IU, 750 IU, 1000 IU, 2000 IU	PEGylated lyophilized pwd for IV inj after reconstitution	Adults and Children: Dose (IU) = Body Weight (kg) × Desired % Factor VIII Increase × 0.5. <i>Bleeding (Minor):</i> obtain 20–40% FVIII increase every 12–24hrs until resolved; (<i>Moderate</i>): obtain 30–60% FVIII increase every 12–24hrs until resolved; (<i>Major</i>): obtain 60–100% FVIII increase every 8–24hrs until resolved. <i>Peri-op:</i> (<i>Minor</i>): obtain 60–100% FVIII increase; give 1hr before surgery, repeat after 24hrs if needed until bleeding resolved; (<i>Major</i>): obtain 80–120% FVIII increase (pre- and post-op); give 1hr before surgery, repeat every 8–24hrs (6–24hrs if <12yrs) until adequate wound healing. <i>Routine prophylaxis (<12yrs):</i> 55 IU/kg twice weekly; (≥12yrs): 40–50 IU/kg twice weekly; max 70 IU/kg. Max infusion rate 10mL/min.
Afstyla	250 IU, 500 IU, 1000 IU, 2000 IU, 3000 IU	lyophilized pwd for IV infusion after reconstitution	Adults and Children: Dose (IU) = Body Weight (kg) × Desired % Factor VIII Increase × 0.5. <i>Bleeding (Minor):</i> obtain 20–40% FVIII increase; may repeat every 12–24hrs until resolved; (<i>Moderate</i>): obtain 30–60% FVIII increase; may repeat every 12–24hrs until resolved; (<i>Major</i>): obtain 60–100% FVIII increase; may repeat every 8–24hrs until resolved. <i>Peri-op (Minor):</i> obtain 30–60% FVIII increase; may repeat every 24hrs for ≥1 day until healed; (<i>Major</i>): obtain 80–100% FVIII increase; may repeat every 8–24hrs until adequately healed, then continue for ≥7 days to maintain Factor VIII activity of 30–60%. <i>Routine prophylaxis (<12yrs):</i> 30–50 IU/kg 2–3 times weekly (more frequent or higher doses may be required); (≥12yrs): 20–50 IU/kg 2–3 times weekly. Max infusion rate 10mL/min.
Esperoct	500 IU, 1000 IU, 1500 IU, 2000 IU, 3000 IU	lyophilized pwd for IV infusion after reconstitution	Adults and Children: <12yrs: <i>Bleeding:</i> 65 IU/kg once; (<i>Minor</i>): one dose is sufficient; (<i>Moderate</i>): an additional dose may be given after 24hrs; (<i>Major</i>): additional dose(s) may be given every 24hrs. <i>Perioperative:</i> 65 IU/kg once; (<i>Minor</i>): additional dose(s) can be given after 24hrs; (<i>Major</i>): additional dose(s) can be given approx. every 24hrs for the first week, then approx. every 48hrs until wound has healed. <i>Routine prophylaxis:</i> 65 IU/kg twice weekly; then may adjust individually based on bleeding episodes. ≥12yrs: <i>Bleeding (Minor):</i> 40 IU/kg once; (<i>Moderate</i>): 40 IU/kg once; an additional dose may be given after 24hrs; (<i>Major</i>): 50 IU/kg once; additional dose(s) may be given every 24hrs. <i>Perioperative:</i> 50 IU/kg once; (<i>Minor</i>): additional dose(s) can be given after 24hrs; (<i>Major</i>): additional dose(s) can be given approx. every 24hrs for the first week, then approx. every 48hrs until wound has healed. <i>Routine prophylaxis:</i> initially 50 IU/kg every 4 days; then may adjust individually based on bleeding episodes. Also to achieve a specific target FVIII activity level, calculate dose using: Dosage Required (IU) = Body Weight (kg) × Desired FVIII Increase (IU/dL or % of Normal) × 0.5.
Helixate FS	250 IU, 500 IU, 1000 IU	dried concentrate for IV infusion after reconstitution	Adults and Children: <i>Minor hemorrhage:</i> 10–20 IU/kg; may repeat dose if needed. <i>Moderate/major hemorrhage or minor surgery:</i> 15–30 IU/kg; may repeat 1 dose at 12–24hrs if needed. <i>Major/life-threatening hemorrhage, fractures or head trauma:</i> initially 40–50 IU/kg, then 20–25 IU/kg every 8–12hrs. <i>Major surgery:</i> pre-op dose: 50 IU/kg ² ; may repeat after 6–12hrs initially, and for 10–14 days until completely healed.
Hemofil M	220–400 IU, 401–800 IU, 801–1700 IU, 1701–2000 IU	dried concentrate for IV infusion after reconstitution	Adults and Children: Dose (IU) = Body Weight (kg) × Desired % Factor VIII Increase × 0.5. Individualize. <i>Hemorrhage (Mild):</i> obtain 20–40% FVIII increase every 12–24hrs for 1–3 days until resolved; (<i>Moderate</i>): obtain 30–60% FVIII increase every 12–24hrs for 3 days or until resolved; (<i>Life-threatening</i>): obtain 60–100% FVIII increase every 8–24hrs until resolved. <i>Surgery (Minor):</i> obtain 60–80% FVIII increase as single infusion plus oral antifibrinolytic therapy within 1hr; (<i>Major</i>): pre- and post-op: obtain 80–100% FVIII increase; repeat every 8–24hrs based on healing. Max infusion rate 10mL/min.

(continued)

BLEEDING DISORDER TREATMENTS: HEMOPHILIA A (Part 2 of 4)

Brand	Strength	Form	Dose
ANTIHEMOPHILIC FACTOR VIII¹ (continued)			
Jivi	500 IU, 1000 IU, 2000 IU, 3000 IU	lyophilized pwd for IV inj after reconstitution	Adults and Children: Dose (IU) = Body Weight (kg) × Desired Factor VIII Increase × Reciprocal of expected recovery (or observed recovery). <i>Bleeding (Minor):</i> obtain 20–40% FVIII increase; give 10–20 IU/kg every 24–48hrs until resolved; <i>(Moderate):</i> obtain 30–60% FVIII increase; give 15–30 IU/kg every 24–48hrs until resolved; <i>(Major):</i> obtain 60–100% FVIII increase; give 30–50 IU/kg every 8–24hrs until resolved. <i>Perioperative (Minor):</i> obtain 30–60% (pre- and post-op) FVIII increase; give 15–30 IU/kg every 24hrs for ≥1 day until healed; <i>(Major):</i> obtain 80–100% (pre- and post-op) FVIII increase; give 40–50 IU/kg every 12–24hrs until adequate healing completed, then continue for ≥7 days to maintain FVIII activity of 30–60%. <i>Routine prophylaxis:</i> initially 30–40 IU/kg twice weekly; may adjust to 45–60 IU/kg every 5 days based on bleeding episodes, then may further adjust individually. Max infusion rate 2.5mL/min. Max dose per infusion: 6000 IU.
Koate-DVI	250 IU, 500 IU, 1000 IU	dried concentrate for IV infusion after reconstitution	Adults: <i>Hemorrhage (Mild):</i> 10 IU/kg as single dose; <i>(Moderate):</i> 15–25 IU/kg, then 10–15 IU/kg every 8–12hrs if needed; <i>(Severe):</i> initially 40–50 IU/kg, then 20–25 IU/kg every 8–12hrs. <i>Major surgery:</i> pre-op dose: 50 IU/kg ² ; may repeat every 6–12hrs initially and for 10–14 days until healing complete. Children: Not recommended.
Kogenate FS	250 IU, 500 IU, 1000 IU, 2000 IU, 3000 IU	lyophilized pwd for IV infusion after reconstitution	Adults and Children: <i>Minor hemorrhage:</i> 10–20 IU/kg; may repeat dose if needed. <i>Moderate hemorrhage or minor surgery:</i> 15–30 IU/kg; may repeat dose every 12–24hrs until resolved. <i>Major hemorrhage, fractures or head trauma:</i> initially 40–50 IU/kg, then 20–25 IU/kg every 8–12hrs until resolved. <i>Major surgery:</i> pre-op: 50 IU/kg ² ; repeat if needed after 6–12hrs initially, and for 10–14 days until completely healed. <i>Routine prophylaxis (children):</i> 25 IU/kg every other day.
Kovaltry	250 IU, 500 IU, 1000 IU, 2000 IU, 3000 IU	lyophilized pwd for IV infusion after reconstitution	Adults and Children: Dose (IU) = Body Weight (kg) × Desired % Factor VIII Increase × 0.5. Individualize. <i>Bleeding (Minor):</i> obtain 20–40% FVIII increase; may repeat every 12–24hrs for ≥1 day until resolved or healing achieved; <i>(Moderate):</i> obtain 30–60% FVIII increase; may repeat every 12–24hrs for 3–4 days until resolved; <i>(Major):</i> obtain 60–100% FVIII increase; may repeat every 8–24hrs until resolved. <i>Peri-op (pre- and post-op):</i> <i>Minor:</i> obtain 30–60% FVIII increase; may repeat every 24hrs for ≥1 day until healed; <i>Major:</i> obtain 80–100% FVIII increase; may repeat every 8–24hrs until adequately healed, then continue for ≥7 days to maintain Factor VIII activity of 30–60%. <i>Routine prophylaxis (<12yrs):</i> 25–50 IU/kg 2–3 times weekly or every other day; (>12yrs): 20–40 IU/kg 2–3 times weekly.
Monoclate-P	250 IU, 500 IU, 1000 IU, 1500 IU	lyophilized concentrate for IV infusion after reconstitution	Adults and Children: Dose (IU) = Body Weight (kg) × Desired % Factor VIII Increase × 0.5. Individualize. <i>Mild hemorrhage:</i> attain 30% FVIII increase as single dose. <i>Moderate hemorrhage or minor surgery:</i> initially 15–25 IU/kg, then 10–15 IU/kg every 8–12hrs if needed. <i>Severe hemorrhage:</i> initially 40–50 IU/kg, then 20–25 IU/kg every 8–12hrs. <i>Major surgery:</i> give 1st dose 1hr pre-op to attain 80–100% FVIII increase, then give a ½ dose 5hrs after 1st dose; maintain daily at ≥30% FVIII increase for 10–14 days post-op. Max infusion rate 2mL/min.
NovoEight	250 IU, 500 IU, 1000 IU, 1500 IU, 2000 IU, 3000 IU	lyophilized pwd for IV inj after reconstitution	Adults and Children: Dose (IU) = Body Weight (kg) × Desired Factor VIII Increase × 0.5. <i>Bleeding (Minor):</i> obtain 20–40% FVIII increase every 12–24hrs for ≥1 day until resolved; <i>(Moderate):</i> obtain 30–60% FVIII increase every 12–24hrs for 3–4 days until resolved; <i>(Major):</i> obtain 60–100% FVIII increase every 8–24hrs for 7–10 days until resolved. <i>Peri-op (Minor):</i> obtain 30–60% FVIII increase every 24hrs for ≥1 day until healed; <i>(Major):</i> pre- and post-op: obtain 80–100% FVIII increase every 8–24hrs until adequate wound healing, then continue for ≥7 days to maintain FVIII activity of 30–60%. <i>Routine prophylaxis (<12yrs):</i> 25–60 IU/kg 3 times weekly or 25–50 IU/kg every other day; (≥12yrs): 20–50 IU/kg 3 times weekly or 20–40 IU/kg every other day.
Nuwiq	250 IU, 500 IU, 1000 IU, 2000 IU, 2500 IU, 3000 IU, 4000 IU	lyophilized pwd for IV inj after reconstitution	Adults and Children: Dose (IU) = Body Weight (kg) × Desired Factor VIII Increase × 0.5. <i>Bleeding (Minor):</i> obtain 20–40% FVIII increase every 12–24hrs for ≥1 day until resolved; <i>(Moderate to major):</i> obtain 30–60% FVIII increase every 12–24hrs for 3–4 days or more until resolved; <i>(Life-threatening):</i> obtain 60–100% FVIII increase every 8–24hrs until resolved. <i>Peri-op (pre- and post-op):</i> <i>Minor:</i> obtain 30–60% FVIII increase every 24hrs for ≥1 day until healed; <i>Major:</i> obtain 80–100% FVIII increase every 8–24hrs until adequate wound healing, then continue for ≥7 days to maintain FVIII activity of 30–60%. <i>Routine prophylaxis (2–11yrs):</i> 30–50 IU/kg every other day or 3 times weekly; (≥12yrs): 30–40 IU/kg every other day. Max infusion rate 4mL/min.

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BLEEDING DISORDER TREATMENTS: HEMOPHILIA A (Part 3 of 4)

Brand	Strength	Form	Dose
ANTIHEMOPHILIC FACTOR VIII¹ (continued)			
Obizur³	500 Units	lyophilized pwd for IV inj after reconstitution	Adults: <i>Minor and moderate bleed:</i> initially 200 Units/kg every 4–12hrs; titrate subsequent doses to maintain 50–100 Units/dL. <i>Major bleed:</i> initially 200 Units/kg every 4–12hrs; titrate subsequent doses to maintain 100–200 Units/dL (to treat acute bleed) or 50–100 Units/dL (after acute bleed is controlled, if required). Children: Not established.
Recombinate	250 IU, 500 IU, 1000 IU	lyophilized pwd for IV infusion after reconstitution	Adults and Children: Dose (IU) = Body Weight (kg) × Desired % Factor VIII Increase × 0.5. <i>Hemorrhage (Mild):</i> obtain 20–40% FVIII increase every 12–24hrs for 1–3 days until resolved; <i>(Moderate):</i> obtain 30–60% FVIII increase every 12–24hrs for 3 days or until resolved; <i>(Life-threatening):</i> obtain 60–100% FVIII increase every 8–24hrs until resolved. <i>Surgery (Minor):</i> obtain 60–80% FVIII increase as a single dose plus oral antifibrinolytic therapy within 1hr; <i>(Major):</i> pre- and post-op: obtain 80–100% FVIII increase; repeat every 8–24hrs based on healing. Max infusion rate 10mL/min.
Refacto	250 IU, 500 IU, 1000 IU, 2000 IU	lyophilized pwd for IV infusion after reconstitution	Adults and Children: Dose (IU) = Body Weight (kg) × Desired % Factor VIII Increase × 0.5. Individualize. <i>Minor hemorrhage:</i> obtain 20–40% FVIII increase every 12–24hrs for ≥1 day until resolved. <i>Moderate hemorrhage and tooth extraction:</i> obtain 30–60% FVIII increase every 12–24hrs for 3–4 days until adequate hemostasis (a single dose plus oral antifibrinolytic therapy within 1hr may be sufficient for tooth extraction). <i>Major hemorrhage:</i> obtain 60–100% FVIII increase every 8–24hrs until resolved; or, for surgery, until local hemostasis achieved. <i>Prophylaxis:</i> give ≥2 times weekly; children may need shorter dosage intervals or higher doses.
Xyntha⁴	250 IU, 500 IU, 1000 IU, 2000 IU	lyophilized pwd for IV inj after reconstitution	Adults and Children: One IU of FVIII per kg raises the plasma FVIII activity by ~2 IU/dL. Dose (IU) = Body Weight (kg) × Desired % FVIII Increase × 0.5. Individualize. <i>Bleeding (Minor):</i> obtain 20–40% FVIII increase every 12–24hrs for ≥1 day depending on severity; <i>(Moderate):</i> obtain 30–60% FVIII increase every 12–24hrs for 3–4 days or until hemostasis achieved; <i>(Major):</i> obtain 60–100% FVIII increase every 8–24hrs until resolved. <i>Peri-op (Minor):</i> obtain 30–60% FVIII increase every 12–24hrs for 3–4 days or until hemostasis achieved (for tooth extraction: a single dose plus oral antifibrinolytic therapy within 1hr may be sufficient); <i>(Major):</i> obtain 60–100% FVIII increase every 8–24hrs until resolved or adequate healing achieved. <i>Routine prophylaxis (<12yrs):</i> initially 25 IU/kg every other day (more frequent or higher doses may be required); (≥12yrs): initially 30 IU/kg 3 times weekly. Adjust dose based on response.
Xyntha Solofuse⁴	250 IU, 500 IU, 1000 IU, 2000 IU, 3000 IU	lyophilized pwd in prefilled syringe for IV inj after reconstitution	
ANTIHEMOPHILIC FACTOR VIII/Fc FUSION PROTEIN			
Eloctate⁵	250 IU, 500 IU, 750 IU, 1000 IU, 1500 IU, 2000 IU, 3000 IU	lyophilized pwd for IV inj after reconstitution	Adults and Children: Dose (IU) = Body Weight (kg) × Desired % Factor VIII Increase × 0.5. Individualize. <i>Hemorrhage (Minor/moderate):</i> obtain 40–60% FVIII increase; give 20–30 IU/kg every 24–48hrs until resolved; <i>(Major):</i> obtain 80–100% FVIII increase; give 40–50 IU/kg every 12–24hrs until resolved (~7–10 days). <i>Peri-op (Minor):</i> obtain 50–80% FVIII increase; give 25–40 IU/kg every 24hrs for ≥1 day until healing achieved; <i>(Major):</i> obtain 80–120% FVIII increase (pre- and post-op); give pre-op dose (40–60 IU/kg) followed by repeat dose (40–50 IU/kg) after 8–24hrs, then every 24hrs to maintain target range; give until adequate wound healing, then continue for ≥7 days to maintain target range. <i>Routine prophylaxis:</i> 50 IU/kg every 4 days; may adjust to range of 25–65 IU/kg at 3–5 day intervals based on response. Max infusion rate 10mL/min.
ANTIHEMOPHILIC FACTOR VIII/VON WILLEBRAND FACTOR COMPLEX			
Alphanate	250 IU, 500 IU, 1000 IU, 1500 IU	lyophilized pwd for IV inj after reconstitution	Adults: <i>Hemorrhage (Minor):</i> 15 FVIII IU/kg twice daily for 1–2 days; <i>(Moderate):</i> 25 FVIII IU/kg twice daily for 2–7 days; <i>(Severe):</i> 40–50 FVIII IU/kg twice daily for ≥3–5 days, then 25 FVIII IU/kg twice daily until healed (up to 10 days). <i>Surgery:</i> 40–50 FVIII IU/kg prior to surgery, then 25–50 FVIII IU/kg twice daily for 7–10 days or until healed. Max infusion rate ≤10mL/min. Children: Not established.

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BLEEDING DISORDER TREATMENTS: HEMOPHILIA A (Part 4 of 4)

Brand	Strength	Form	Dose
ANTIHEMOPHILIC FACTOR VIII/VON WILLEBRAND FACTOR COMPLEX (continued)			
Humate-P¹	250 IU FVIII + 600 IU VWF, 500 IU FVIII + 1200 IU VWF, 1000 IU FVIII + 2400 IU VWF	lyophilized pwd for IV infusion after reconstitution	Adults: <i>Minor bleed:</i> 15 IU FVIII/kg (obtain 30% FVIII increase) once; if needed, may give ½ dose once or twice daily for 1–2 days. <i>Moderate bleed:</i> initially 25 IU FVIII/kg (obtain 50% FVIII increase), then 15 IU FVIII/kg (maintain 30% FVIII increase) every 8–12hrs for 1–2 days, then repeat for 1–2 times daily for a total of 7 days or until healed. <i>Severe bleed:</i> initially 40–50 IU FVIII/kg, then 20–25 IU FVIII/kg every 8hrs (maintain 80–100% FVIII increase) for 7 days, then repeat for 1–2 times daily for additional 7 days (maintain 30–50% FVIII increase). Max infusion rate 4mL/min. Children: Not established.
Wilate	500 IU FVIII + 500 IU VWF:RCo, 1000 IU FVIII + 1000 IU VWF:RCo	pwd for IV inj after reconstitution	<12yrs: contact manufacturer. ≥12yrs: <i>Minor bleed:</i> 30–40 IU/kg every 12–24hrs for ≥1 day. <i>Moderate bleed:</i> 30–40 IU/kg every 12–24hrs for ≥3–4 days. <i>Major bleed:</i> 35–50 IU/kg every 12–24hrs for ≥3–4 days. <i>Life-threatening:</i> 35–50 IU/kg every 8–24hrs until resolved. <i>Routine prophylaxis:</i> 20–40 IU/kg every 2–3 days.

ANTI-INHIBITOR COAGULANT COMPLEX

Feiba^{6,7}	500 units, 1000 units, 2500 units	lyophilized pwd for IV infusion after reconstitution	Adults and Children: <i>Joint hemorrhage:</i> 50–100units/kg every 12hrs until improved. <i>Mucous membrane bleed:</i> 50–100units/kg every 6hrs for ≥1 day or until resolved. <i>Soft tissue hemorrhage:</i> 100units/kg every 12hrs until resolved. <i>Other severe hemorrhage (eg, CNS bleeds):</i> 100units/kg every 6–12hrs until resolved. <i>Pre-op:</i> 50–100units/kg once immediately prior to surgery. <i>Post-op:</i> 50–100units/kg every 6–12hrs until resolved and healed. <i>Routine prophylaxis:</i> 85units/kg every other day. <i>All:</i> Max 200units/kg/day (100units/kg/dose).
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DESMOPRESSIN

Stimate⁸	150mcg/spray	soln for nasal spray	Adults and Children: <11mos: Not recommended. Give test dose prior to initiating therapy. >11mos: <50kg: 1 spray in one nostril (150mcg). ≥50kg: 1 spray per nostril (300mcg). May repeat dose based on clinical response. <i>Pre-op:</i> give 2hrs prior to procedure.
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EMICIZUMAB-KXWH

Hemlibra	30mg/mL, 60mg/0.4mL, 105mg/0.7mL, 150mg/mL	soln for SC inj	Adults and Children: Give by SC inj into upper outer arms, thighs, or any abdomen quadrant. 3mg/kg once weekly for first 4wks, then 1.5mg/kg once weekly, or 3mg/kg once every 2wks, or 6mg/kg once every 4wks.
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RECOMBINANT COAGULATION FACTOR VIIa

NovoSeven RT⁹	1mg, 2mg, 5mg, 8mg	lyophilized pwd for IV inj after reconstitution	Adults and Children: Give by IV bolus only. Individualize. <i>Bleeding:</i> 90mcg/kg every 2hrs, adjust until hemostasis achieved; post-hemostatic dose: continue at 3–6hrs intervals for severe bleeds. <i>Pre-op:</i> initially 90mcg/kg prior to surgery, repeat at 2hr intervals during surgery. <i>Post-op: Minor:</i> every 2hrs for 48hrs, then every 2–6hrs until healed; <i>Major:</i> every 2hrs for 5 days, then every 4hrs until healed.
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NOTES

Key: FVIII = Factor VIII; VWF = von Willebrand factor

¹ Confirm Factor VIII deficiency prior to treatment. Monitor for development of Factor VIII inhibitors.

² Verify 100% Factor VIII activity prior to surgery.

³ Porcine sequence.

⁴ Contains polysorbate 80.

⁵ Higher or more frequent dosing may be needed in children <6yrs.

⁶ For hemophilia A with inhibitors.

⁷ Contains Factors II, IX, X (non-activated); Factor VII (activated); Factor VIII inhibitor bypassing activity; Prothrombin Complex Factors.

⁸ For Hemophilia A with Factor VIII levels >5%.

Not an inclusive list of medications and/or official indications. Please see drug monograph at www.eMPR.com and/or contact company for full drug labeling.