Reversal for Anticoagulant-Induced Life-threatening Bleeding [4129]

This order set is intended for anticoagulant reversal in the setting of life-threatening and acute bleeding. For non-emergent reversal of warfarin (Coumadin), refer to the Non-Emergent Reversal of Warfarin (Coumadin) Anticoagulation (procedure or supratherapeutic INR without bleeding).

DISCONTINUE ANTICOAGULANT

General

Bleeding Location (Selection Required)

[X] Bleeding location:	Bleeding location:
[ ] Other	

Laboratory

Baseline Laboratory

[X] Type and screen	
[X] Type and screen	STAT For 1 Occurrences, Blood Bank
[X] ABO and Rh confirmation	Once, Blood Bank Confirmation
[X] CBC with platelet and differential	STAT For 1 Occurrences
[X] Prothrombin time with INR	STAT For 1 Occurrences
[X] Partial thromboplastin time, activated	STAT For 1 Occurrences
[ ] Other	

Follow-Up Laboratory

[X] CBC with platelet and differential	Every 6 hours For 24 Hours Draw lab one hour after reversal
[X] Prothrombin time with INR	Every 6 hours For 24 Hours Draw lab one hour after reversal
[X] Partial thromboplastin time, activated	Every 6 hours For 24 Hours Draw lab one hour after reversal
[ ] Other	

Medications and Additional Laboratory

Bleeding associated with use of (Single Response) (Selection Required)

( ) apixaban (ELIQUIS), rivaroxaban (XARELTO), edoxaban (SAVAYSA)

[ ] Medications (Single Response)

( ) Andexanet alfa (Andexxa®) infusion (RESTRICTED) (Single Response)

Fa Inhibitor FXa Inhibitor Last Dose Timing of FXa Inhibitor Last Dose Before Andexanet alfa Initiation
<8 Hours or Unknown ?8 Hours
Apixaban ?5 mg Low dose Low dose
>5 mg or unknown High dose
Rivaroxaban ?10 mg Low dose
>10 mg or unknown High dose

High dose should also be used for patients ?7 hours since last administration of treatment dose enoxaparin ? 1 mg/kg in a patient allergic to protamine.

( ) Low Dose Option (Single Response)

( ) Central Line Administration **"Followed by" Linked Panel**

[ ] factor Xa,inactivated-zhzo (ANDEXXA) IV solution (RESTRICTED)	400 mg, intravenous, for 15 Minutes, once, For 1 Doses Do not exceed 30 mg/min for bolus rate Andexxa® is restricted to attending-level physicians. Are you an attending-level provider or ordering on behalf of one? Andexxa® is restricted to use in emergency department, intensive care unit, and operating room areas only. Do you attest that the patient is being treated in an approved care setting? Andexxa® is restricted to treatment of intracranial hemorrhage, neuraxial bleeding, and life-threatening extracranial bleeding that is not amendable to other medical and surgical interventions. Do you attest that these restrictions are met? Andexxa® is restricted to only be used to reverse rivaroxaban, apixaban, or enoxaparin (if allergic to protamine). Do you attest that these restrictions for andexanet alfa (Andexxa®) have been met?
[ ] recombinant coagulation factor Xa (ANDEXXA) Low Dose 500 mg infusion (RESTRICTED)	4 mg/min, intravenous, for 120 Minutes, once, Starting H+15 Minutes, For 1 Doses Andexxa® is restricted to attending-level physicians. Are you an attending-level provider or ordering on behalf of one? Andexxa® is restricted to use in emergency department, intensive care unit, and operating room areas only. Do you attest that the patient is being treated in an approved care setting? Andexxa® is restricted to treatment of intracranial hemorrhage, neuraxial bleeding, and life-threatening extracranial bleeding that is not amendable to other medical and surgical interventions. Do you attest that these restrictions are met? Andexxa® is restricted to only be used to reverse rivaroxaban, apixaban, or enoxaparin (if allergic to protamine). Do you attest that these restrictions for andexanet alfa (Andexxa®) have been met?
( ) Peripheral Line Administration	**"Followed by" Linked Panel**
[ ] andexanet alfa (ANDEXXA) Peripheral Line IV Bolus (RESTRICTED)	400 mg, intravenous, for 15 Minutes, once, For 1 Doses Do not exceed 30 mg/min for bolus rate. Andexxa® is restricted to attending-level physicians. Are you an attending-level provider or ordering on behalf of one? Andexxa® is restricted to use in emergency department, intensive care unit, and operating room areas only. Do you attest that the patient is being treated in an approved care setting? Andexxa® is restricted to treatment of intracranial hemorrhage, neuraxial bleeding, and life-threatening extracranial bleeding that is not amendable to other medical and surgical interventions. Do you attest that these restrictions are met? Andexxa® is restricted to only be used to reverse rivaroxaban, apixaban, or enoxaparin (if allergic to protamine). Do you attest that these restrictions for andexanet alfa (Andexxa®) have been met?
[ ] recombinant coagulation factor Xa (ANDEXXA) Low Dose 480 mg Peripheral Line infusion (RESTRICTED)	4 mg/min, intravenous, for 120 Minutes, once, Starting H+15 Minutes, For 1 Doses Andexxa® is restricted to attending-level physicians. Are you an attending-level provider or ordering on behalf of one? Andexxa® is restricted to use in emergency department, intensive care unit, and operating room areas only. Do you attest that the patient is being treated in an approved care setting? Andexxa® is restricted to treatment of intracranial hemorrhage, neuraxial bleeding, and life-threatening extracranial bleeding that is not amendable to other medical and surgical interventions. Do you attest that these restrictions are met? Andexxa® is restricted to only be used to reverse rivaroxaban, apixaban, or enoxaparin (if allergic to protamine). Do you attest that these restrictions for andexanet alfa (Andexxa®) have been met?
( ) High Dose Option (Single Response)	
( ) Central Line Administration	**"Followed by" Linked Panel**

[ ] andexanet alfa (ANDEXXA) IV Bolus (RESTRICTED)	800 mg, intravenous, for 30 Minutes, once, For 1 Doses Do not exceed 30 mg/min for bolus Andexxa® is restricted to attending-level physicians. Are you an attending-level provider or ordering on behalf of one? Andexxa® is restricted to use in emergency department, intensive care unit, and operating room areas only. Do you attest that the patient is being treated in an approved care setting? Andexxa® is restricted to treatment of intracranial hemorrhage, neuraxial bleeding, and life-threatening extracranial bleeding that is not amendable to other medical and surgical interventions. Do you attest that these restrictions are met? Andexxa® is restricted to only be used to reverse rivaroxaban, apixaban, or enoxaparin (if allergic to protamine). Do you attest that these restrictions for andexanet alfa (Andexxa®) have been met?
[ ] recombinant coagulation factor Xa (ANDEXXA) High Dose 960 mg Central Line infusion (RESTRICTED)	8 mg/min, intravenous, for 120 Minutes, once, Starting H+30 Minutes, For 1 Doses Andexxa® is restricted to attending-level physicians. Are you an attending-level provider or ordering on behalf of one? Andexxa® is restricted to use in emergency department, intensive care unit, and operating room areas only. Do you attest that the patient is being treated in an approved care setting? Andexxa® is restricted to treatment of intracranial hemorrhage, neuraxial bleeding, and life-threatening extracranial bleeding that is not amendable to other medical and surgical interventions. Do you attest that these restrictions are met? Andexxa® is restricted to only be used to reverse rivaroxaban, apixaban, or enoxaparin (if allergic to protamine). Do you attest that these restrictions for andexanet alfa (Andexxa®) have been met?
( ) Peripheral Line Administration	**"Followed by" Linked Panel**
[ ] andexanet alfa (ANDEXXA) Peripheral Line IV Bolus (RESTRICTED)	800 mg, intravenous, for 30 Minutes, once, For 1 Doses Do not exceed 30 mg/min for bolus rate. Andexxa® is restricted to attending-level physicians. Are you an attending-level provider or ordering on behalf of one? Andexxa® is restricted to use in emergency department, intensive care unit, and operating room areas only. Do you attest that the patient is being treated in an approved care setting? Andexxa® is restricted to treatment of intracranial hemorrhage, neuraxial bleeding, and life-threatening extracranial bleeding that is not amendable to other medical and surgical interventions. Do you attest that these restrictions are met? Andexxa® is restricted to only be used to reverse rivaroxaban, apixaban, or enoxaparin (if allergic to protamine). Do you attest that these restrictions for andexanet alfa (Andexxa®) have been met?
[ ] recombinant coagulation factor Xa (ANDEXXA) High Dose 960 mg Peripheral Line infusion (RESTRICTED)	8 mg/min, intravenous, for 120 Minutes, once, Starting H+30 Minutes, For 1 Doses Andexxa® is restricted to attending-level physicians. Are you an attending-level provider or ordering on behalf of one? Andexxa® is restricted to use in emergency department, intensive care unit, and operating room areas only. Do you attest that the patient is being treated in an approved care setting? Andexxa® is restricted to treatment of intracranial hemorrhage, neuraxial bleeding, and life-threatening extracranial bleeding that is not amendable to other medical and surgical interventions. Do you attest that these restrictions are met? Andexxa® is restricted to only be used to reverse rivaroxaban, apixaban, or enoxaparin (if allergic to protamine). Do you attest that these restrictions for andexanet alfa (Andexxa®) have been met?

( ) STAT Prothrombin complex concentrate (KCentra) IV (Single Response)

Avoid use in disseminated intravascular coagulopathy (DIC). May contain heparin, avoid use in heparin induced thrombocytopenia (HIT). Closely monitor for thromboembolic events during and after administration. Use has not been evaluated in patients who have experienced a thromboembolic event, MI, CVA, TIA, unstable angina, or severe peripheral vascular disease within the prior 3 months.

( ) Intracranial hemorrhage — 50 Units/kg, intravenous, for 20 Minutes, once, For 1 Doses
( ) Other bleeding types — intravenous, once

[ ] Additional laboratory for apixaban (Eliquis)
- [ ] Anti Xa Apixaban — STAT, Starting S For 1 Occurrences; STAT
- [ ] Anti Xa Apixaban — Once, Starting H+2 Hours For 1 Occurrences; Draw 1 hour after reversal administration

[ ] Additional laboratory for rivaroxaban (Xarelto)
- [ ] Anti Xa Rivaroxaban — STAT, Starting S For 1 Occurrences; STAT
- [ ] Anti Xa Rivaroxaban — Once, Starting H+2 Hours For 1 Occurrences; Draw 1 hour after reversal administration

( ) dabigatran (PRADAXA)

[ ] Consult Nephrology/Hyperten — Reason for Consult?; Patient/Clinical information communicated?; Patient/clinical information communicated?

[ ] idaruCIZUmab (PRAXBIND)

Note: For Hereditary Fructose Intolerance Patients - idarucizumab contains 4 gm of sorbitol as an excipient

2.5 gram x 2 doses = 5 grams total dose delivered

- [ ] idaruCIZUmab (PRAXBIND) IVPB solution - 2.5 gm x 2 doses = 5 gm total dose — 2.5 g, intravenous, at 300 mL/hr, for 10 Minutes, every 10 min, For 2 Doses; Administer 2.5 grams x 2 doses for a total dose of 5 grams delivered. Administer no more than 15 minutes apart.

( ) heparin

[ ] Medications (Single Response)

MAX single dose of protamine IV should not exceed 50 mg

( ) Protamine for one-time dose of Heparin (i.e. bolus) **"And" Linked Panel**

Exposure to heparin less than 30 minutes ago, give 1 mg of protamine for every 100 units of unfractionated heparin
Exposure to heparin 30-60 minutes ago, give 0.5 mg of protamine for every 100 units of unfractionated heparin
Exposure to heparin was greater than 2 hours ago, give 0.25 mg of protamine for each 100 units of unfractionated heparin

Degree of reversal can be expressed with aPTT and/or anti-factor Xa Activity.

Use with caution in patients with a history of vasectomy, previous exposure to protamine through protamine-containing insulins or with known fish allergy.
Do NOT exceed a dose rate of 5 mg/minute. MAX Dose of protamine is 50 mg.

- [ ] protamine injection — intravenous, once, For 1 Doses; Do not exceed a dose administration rate of 5 mg/min.

( ) Protamine for prolonged exposure of Heparin (i.e. IV infusion) **"And" Linked Panel**

Use only the last 3 hours of heparin exposure prior to reversal when considering the total amount of heparin administered to the patient:
- For every 100 units of heparin patient received in last hour give 1 mg of protamine
- For every 100 units of heparin the patient received in the 2nd hour, give 0.5 mg of protamine
- For every 100 units of heparin the patient received in the 3rd hour, give 0.25 mg of protamine

Degree of reversal can be expressed with aPTT and/or anti-factor Xa Activity. Contact pharmacy if assistance is required in determining amount of heparin administered to the patient over time.

Use with caution in patients with a history of vasectomy, previous exposure to protamine through protamine-containing insulins or with known fish allergy.
Do NOT exceed a dose rate of 5 mg/minute. MAX Dose of protamine is 50 mg.

- [ ] protamine injection — intravenous, once, For 1 Doses; Do not exceed a dose administration rate of 5 mg/min

[ ] Heparin Addtional Laboratory
- [ ] Anti Xa, unfractionated — STAT, Starting S For 1 Occurrences; STAT

[ ] Anti Xa, unfractionated	Once, Starting H+2 Hours For 1 Occurrences Draw after protamine administration

( ) low molecular weight heparin: enoxaparin (LOVENOX) or dalteparin (FRAGMIN)

[ ] Protamine for partial neutralization (60%) (Single Response)

Recommended dosing provided:
Last dose of LMWH was less than 8 hours - for each 1 mg of enoxaparin use 1 mg of protamine
- for each 100 units of dalteparin use 1 mg of protamine
Last dose of LMWH was between 8 to 12 hours - for each 1 mg of enoxaparin administer 0.5 mg of protamine.
- for each 100 units of dalteparin use 0.5 mg of protamine
Last dose of LMWH was greater than 12 hours - administration of protamine is not recommended

Degree of reversal can be expressed with aPTT and/or anti-factor Xa Activity.

Use with caution in patients with a history of vasectomy, previous exposure to protamine through protamine-containing insulins or with known fish allergy.
Do NOT exceed a dose rate of 5 mg/minute. MAX Dose of protamine is 50 mg.

( ) protamine injection	intravenous, once, For 1 Doses Do not exceed a dose administration rate of 5 mg/min.

[ ] Andexanet alfa (Andexxa®) infusion (RESTRICTED) (Single Response)

Fa Inhibitor	FXa Inhibitor Last Dose Timing of FXa Inhibitor Last Dose Before Andexanet alfa Initiation
Apixaban	?5 mg Low dose <8 Hours or Unknown
	Low dose ?8 Hours
	>5 mg or unknown High dose
Rivaroxaban	?10 mg Low dose
	>10 mg or unknown High dose

High dose should also be used for patients ?7 hours since last administration of treatment dose enoxaparin ? 1 mg/kg in a patient allergic to protamine.

( ) Low Dose Option (Single Response)

( ) Central Line Administration	**"Followed by" Linked Panel**
[ ] factor Xa,inactivated-zhzo (ANDEXXA) IV solution (RESTRICTED)	400 mg, intravenous, for 15 Minutes, once, For 1 Doses Do not exceed 30 mg/min for bolus rate Andexxa® is restricted to attending-level physicians. Are you an attending-level provider or ordering on behalf of one? Andexxa® is restricted to use in emergency department, intensive care unit, and operating room areas only. Do you attest that the patient is being treated in an approved care setting? Andexxa® is restricted to treatment of intracranial hemorrhage, neuraxial bleeding, and life-threatening extracranial bleeding that is not amendable to other medical and surgical interventions. Do you attest that these restrictions are met? Andexxa® is restricted to only be used to reverse rivaroxaban, apixaban, or enoxaparin (if allergic to protamine). Do you attest that these restrictions for andexanet alfa (Andexxa®) have been met?

[ ] recombinant coagulation factor Xa (ANDEXXA) Low Dose 500 mg infusion (RESTRICTED)	4 mg/min, intravenous, for 120 Minutes, once, Starting H+15 Minutes, For 1 Doses Andexxa® is restricted to attending-level physicians. Are you an attending-level provider or ordering on behalf of one? Andexxa® is restricted to use in emergency department, intensive care unit, and operating room areas only. Do you attest that the patient is being treated in an approved care setting? Andexxa® is restricted to treatment of intracranial hemorrhage, neuraxial bleeding, and life-threatening extracranial bleeding that is not amendable to other medical and surgical interventions. Do you attest that these restrictions are met? Andexxa® is restricted to only be used to reverse rivaroxaban, apixaban, or enoxaparin (if allergic to protamine). Do you attest that these restrictions for andexanet alfa (Andexxa®) have been met?
( ) Peripheral Line Administration	**"Followed by" Linked Panel**
[ ] andexanet alfa (ANDEXXA) Peripheral Line IV Bolus (RESTRICTED)	400 mg, intravenous, for 15 Minutes, once, For 1 Doses Do not exceed 30 mg/min for bolus rate. Andexxa® is restricted to attending-level physicians. Are you an attending-level provider or ordering on behalf of one? Andexxa® is restricted to use in emergency department, intensive care unit, and operating room areas only. Do you attest that the patient is being treated in an approved care setting? Andexxa® is restricted to treatment of intracranial hemorrhage, neuraxial bleeding, and life-threatening extracranial bleeding that is not amendable to other medical and surgical interventions. Do you attest that these restrictions are met? Andexxa® is restricted to only be used to reverse rivaroxaban, apixaban, or enoxaparin (if allergic to protamine). Do you attest that these restrictions for andexanet alfa (Andexxa®) have been met?
[ ] recombinant coagulation factor Xa (ANDEXXA) Low Dose 480 mg Peripheral Line infusion (RESTRICTED)	4 mg/min, intravenous, for 120 Minutes, once, Starting H+15 Minutes, For 1 Doses Andexxa® is restricted to attending-level physicians. Are you an attending-level provider or ordering on behalf of one? Andexxa® is restricted to use in emergency department, intensive care unit, and operating room areas only. Do you attest that the patient is being treated in an approved care setting? Andexxa® is restricted to treatment of intracranial hemorrhage, neuraxial bleeding, and life-threatening extracranial bleeding that is not amendable to other medical and surgical interventions. Do you attest that these restrictions are met? Andexxa® is restricted to only be used to reverse rivaroxaban, apixaban, or enoxaparin (if allergic to protamine). Do you attest that these restrictions for andexanet alfa (Andexxa®) have been met?
( ) High Dose Option (Single Response)	
( ) Central Line Administration	**"Followed by" Linked Panel**
[ ] andexanet alfa (ANDEXXA) IV Bolus (RESTRICTED)	800 mg, intravenous, for 30 Minutes, once, For 1 Doses Do not exceed 30 mg/min for bolus Andexxa® is restricted to attending-level physicians. Are you an attending-level provider or ordering on behalf of one? Andexxa® is restricted to use in emergency department, intensive care unit, and operating room areas only. Do you attest that the patient is being treated in an approved care setting? Andexxa® is restricted to treatment of intracranial hemorrhage, neuraxial bleeding, and life-threatening extracranial bleeding that is not amendable to other medical and surgical interventions. Do you attest that these restrictions are met? Andexxa® is restricted to only be used to reverse rivaroxaban, apixaban, or enoxaparin (if allergic to protamine). Do you attest that these restrictions for andexanet alfa (Andexxa®) have been met?

[ ] recombinant coagulation factor Xa (ANDEXXA) High Dose 960 mg Central Line infusion (RESTRICTED)	8 mg/min, intravenous, for 120 Minutes, once, Starting H+30 Minutes, For 1 Doses Andexxa® is restricted to attending-level physicians. Are you an attending-level provider or ordering on behalf of one? Andexxa® is restricted to use in emergency department, intensive care unit, and operating room areas only. Do you attest that the patient is being treated in an approved care setting? Andexxa® is restricted to treatment of intracranial hemorrhage, neuraxial bleeding, and life-threatening extracranial bleeding that is not amendable to other medical and surgical interventions. Do you attest that these restrictions are met? Andexxa® is restricted to only be used to reverse rivaroxaban, apixaban, or enoxaparin (if allergic to protamine). Do you attest that these restrictions for andexanet alfa (Andexxa®) have been met?

( ) Peripheral Line Administration **"Followed by" Linked Panel**

[ ] andexanet alfa (ANDEXXA) Peripheral Line IV Bolus (RESTRICTED)	800 mg, intravenous, for 30 Minutes, once, For 1 Doses Do not exceed 30 mg/min for bolus rate. Andexxa® is restricted to attending-level physicians. Are you an attending-level provider or ordering on behalf of one? Andexxa® is restricted to use in emergency department, intensive care unit, and operating room areas only. Do you attest that the patient is being treated in an approved care setting? Andexxa® is restricted to treatment of intracranial hemorrhage, neuraxial bleeding, and life-threatening extracranial bleeding that is not amendable to other medical and surgical interventions. Do you attest that these restrictions are met? Andexxa® is restricted to only be used to reverse rivaroxaban, apixaban, or enoxaparin (if allergic to protamine). Do you attest that these restrictions for andexanet alfa (Andexxa®) have been met?
[ ] recombinant coagulation factor Xa (ANDEXXA) High Dose 960 mg Peripheral Line infusion (RESTRICTED)	8 mg/min, intravenous, for 120 Minutes, once, Starting H+30 Minutes, For 1 Doses Andexxa® is restricted to attending-level physicians. Are you an attending-level provider or ordering on behalf of one? Andexxa® is restricted to use in emergency department, intensive care unit, and operating room areas only. Do you attest that the patient is being treated in an approved care setting? Andexxa® is restricted to treatment of intracranial hemorrhage, neuraxial bleeding, and life-threatening extracranial bleeding that is not amendable to other medical and surgical interventions. Do you attest that these restrictions are met? Andexxa® is restricted to only be used to reverse rivaroxaban, apixaban, or enoxaparin (if allergic to protamine). Do you attest that these restrictions for andexanet alfa (Andexxa®) have been met?

[ ] Additional laboratory for low-molecular weight heparin - enoxaparin (Lovenox) or dalteparin (Fragmin)

[ ] Anti Xa, low molecular weight	STAT, Starting S For 1 Occurrences Heparin Name: Lovenox STAT
[ ] Anti Xa, low molecular weight	Once For 1 Occurrences Heparin Name: Lovenox Draw after protamine administration

( ) warfarin (COUMADIN)

[ ] STAT Prothrombin complex concentrate (KCentra) (Single Response)

Avoid use in disseminated intravascular coagulopathy (DIC). May contain heparin, avoid use in heparin induced thrombocytopenia (HIT). Closely monitor for thromboembolic events during and after administration. Use has not been evaluated in patients who have experienced a thromboembolic event, MI, CVA, TIA, unstable angina, or severe peripheral vascular disease within the prior 3 months.

( ) For International Normalized Ratio (INR) between 2-3.9 (max dose 2,500 units)	25 Units/kg, intravenous, for 20 Minutes, once, For 1 Doses
( ) For International Normalized Ratio (INR) between 4-6 (max dose 3,500 units)	35 Units/kg, intravenous, for 20 Minutes, once, For 1 Doses

( )	For International Normalized Ratio (INR) GREATER than 6 (max dose 5,000 units)	50 Units/kg, intravenous, for 20 Minutes, once, For 1 Doses
[ ]	phytonadione (vitamin K) (AQUA-Mephyton) IVPB	10 mg, intravenous, for 30 Minutes, once, For 1 Doses Indication: Other Please specify: Warfarin reversal for bleeding

[ ] Other