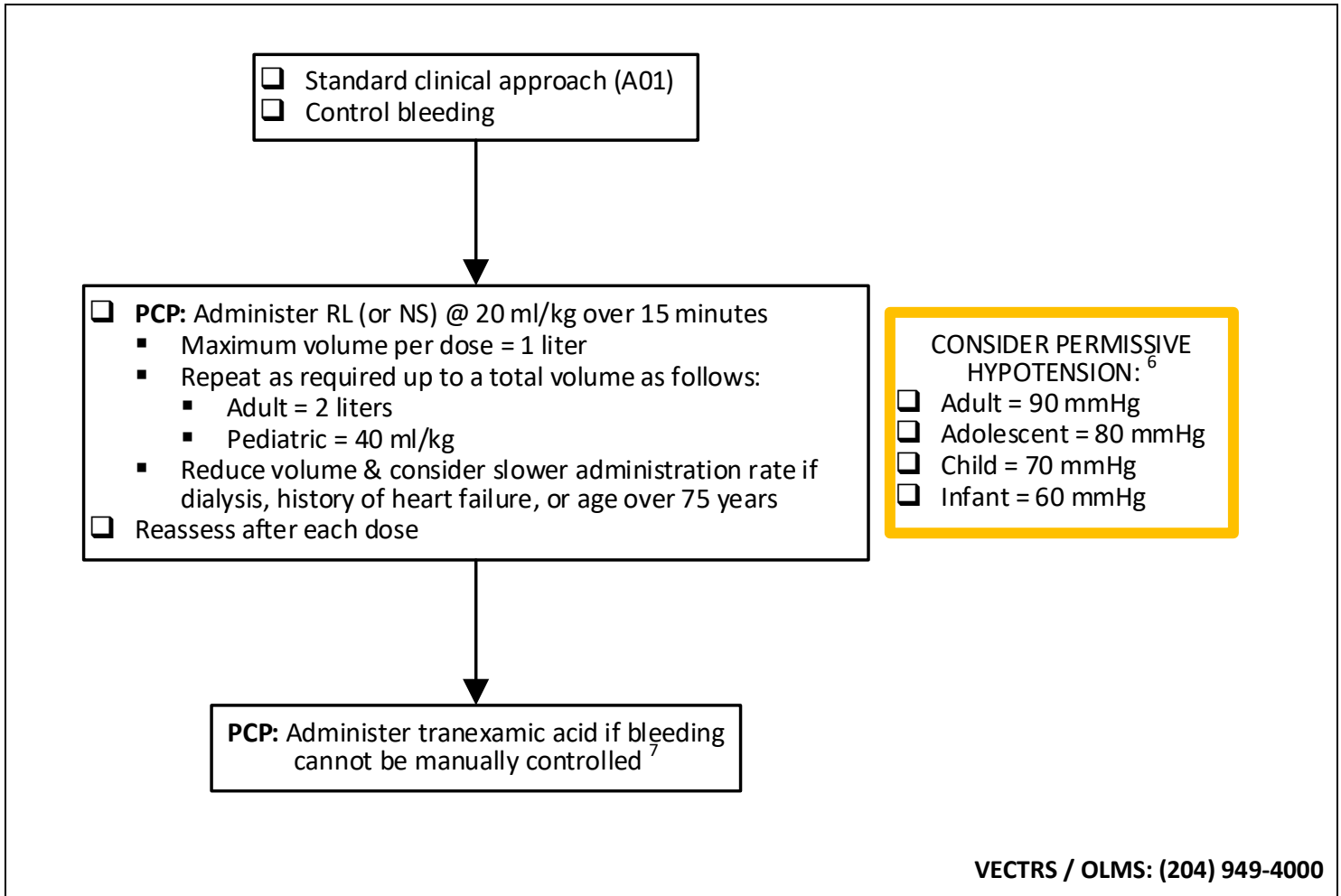
 Shared health Soins communs Manitoba	C07.2 - NONTRAUMA HEMORRHAGIC SHOCK (ALL AGES)		
	Version date: 2025-03-06		Effective Date: 2025-04-30 (07:00)
PCP = PCP - ACP ICP = ICP & ACP ACP = ACP only None = EMR - ACP			



INDICATIONS

- Hypotension, hypoperfusion or shock due to nontraumatic hemorrhage

WARNINGS

- For shock due to blood loss after delivery refer to D08
- For shock due to blood loss from major trauma refer to F01

NOTES

1. Hemorrhagic shock is a life-threatening emergency. Blood loss causes a double hit to cellular oxygenation. Not only is there a loss of circulating blood volume which reduces cardiac output, but there is a loss of red cell mass reducing the oxygen carrying capacity of the circulating blood.
2. Paramedics should assume the presence of shock in a patient with signs and symptoms of hypoperfusion, even if the blood pressure (BP) is in the normal range.

Cardiac arrest usually results when acute blood loss exceeds 50 percent, and a patient can potentially lose up to 40 percent of their blood volume before hypotension is apparent (appendix A). Compensatory mechanisms such as tachycardia may be blunted by medications (e.g. beta blockers) or other health conditions (e.g. pacemaker).

Of special note is the pregnant patient who usually has a physiological increase in blood volume and proportionate decrease in hemoglobin concentration. Uterine blood flow can be compromised with lesser degrees of blood loss, potentially adversely affecting fetal health.
3. Options for prehospital management are usually limited, as establishing the source of bleeding can be difficult without access to advanced investigations. However, paramedics can still improve outcomes by:
 - maintaining a high index of suspicion in a non trauma patient with hypotension or hypoperfusion, and known or suspected hemorrhage.
 - stopping or slowing the bleeding with basic measures, if possible.
 - estimating the volume of blood loss or class of shock (appendix A).
 - achieving a blood pressure (BP) sufficient to maintain essential organ perfusion, without increasing bleeding.
 - promptly transporting the patient to the next level of care.
4. Common sources of nontraumatic hemorrhage include the following:
 - gastrointestinal tract (hematemesis, melena, hematochezia)
 - respiratory tract (epistaxis, hemoptysis)
 - nongravid uterus (menorrhagia, metrorrhagia)
 - vasculature (varicose vein, arteriovenous malformation)
 - fistula or catheter (dialysis patient)
5. Fluid resuscitation with intravenous crystalloid may correct the volume depletion, and improve perfusion. A balanced solution like Ringer's lactate is preferred by some if large volumes are employed, but 0.9% (normal) saline is adequate when just a few liters are required.

Therapy should be titrated to ensure adequate cerebral perfusion and overall improvement in the patient's condition, not just the numerical value of the BP.

6. Aggressive fluid administration can result in coagulopathy, acidosis and hypothermia (impairing clotting), and increases mortality. Vasopressors can be counterproductive when the bleeding source is not controlled.
- While there is limited research into the benefit of permissive hypotension in nontraumatic hemorrhagic shock, consider targeting fluid administration to an age-appropriate lower systolic BP to maintain adequate blood flow to the heart and brain. Carefully and continuously reassess the patient's level of consciousness to monitor cerebral perfusion.
7. While there is limited evidence to support the use of tranexamic acid (TXA) in nontraumatic hemorrhage, it may be of benefit in some situations and should be administered in high risk situations.
- Note that with a bleeding dialysis fistula, TXA should not be administered unless the bleeding cannot be manually controlled (i.e compression, tourniquet) as this may lead to thrombosis and loss of the fistula.

LINKS

- A01 - Standard Clinical Approach
- D08 - Postpartum Hemorrhage
- F01 - Major Trauma
- M28 - Tranexamic Acid

APPROVED BY



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VERSION CHANGES (refer to X03 for change tracking)

- Addition of ACP work scope
- Revised notes & flow chart for greater clarity & ease of use
- Addition of appendix A for classes of shock
- Paramedics with PCP work scope no longer need to consult OLMS to administer TXA

APPENDIX A: SIGNS, SYMPTOMS & CLASSES OF HEMORRHAGIC SHOCK				
PARAMETER	CLASS 1	CLASS 2	CLASS 3	CLASS 4
Blood loss (%)	Less than 15	15 - 30	30 - 40	Greater than 40
Heart rate	Normal	Normal / increased	Increased	Very increased
Blood pressure	Normal	Normal	Normal / decreased	Decreased
Pulse pressure	Normal	Decreased	Decreased	Decreased
Respiratory rate	Normal	Normal	Normal / Increased	Increased
GCS	Normal	Normal	Decreased	Decreased
TXA	Consider	Strongly consider	Administer	Administer
Blood products	Unlikely	Possible	Probable	Definite