Protocol	Current Protocol Reads	Protocol Amendment	Reason
MP12 Psychiatric Emergencies	(Only ALS portion of protocol listed): **Advanced Life Support:** The **Paramedic** may proceed as follows without medical control: **INDICATIONS FOR THE USE OF MIDAZOLAM** The markedly agitated patient who poses a threat to him/herself or others, midazolam may be administered to facilitate physical restraint or where the threat persists after the patient has been placed in physical restraints. **CONTRAINDICATIONS** 1)hypersensitivity to midazolam 2) Relative contraindication in: Myasthenia gravis or other neuromuscular disorders; acute alcohol intoxication; severe, chronic obstructive pulmonary disease; and acute pulmonary insufficiency. **DOSAGE** Patients 14 to 60 years of age: 2 – 10 mg IM q 10 min prn if systolic BP > 100 mmHg to a max of 20 mg 2 mg IV titrated to effect q 5 min to a max of 10 mg Any need for administration beyond the stated maximums requires contact with medical control. **SIDE EFFECTS** Intravenous midazolam may	The protocol will be amended to read: **Advanced Life Support:** The **EMT-A requires** medical control: The Paramedic may proceed as follows without medical control: **INDICATIONS FOR THE** The markedly agitated patient who poses a threat to him/herself or others, midazolam may be administered to facilitate physical restraint or where the threat persists after the patient has been placed in physical restraints. **CONTRAINDICATIONS** 1) hypersensitivity to midazolam 2) Relative contraindication in: Myasthenia gravis or other neuromuscular disorders; acute alcohol intoxication; severe, chronic obstructive pulmonary disease; and acute pulmonary insufficiency. **DOSAGE** Patients 14 to 60 years of age: 2 – 10 mg IM q 10 min prn if systolic BP > 100 mmHg to a max of 20 mg 2 mg IV titrated to effect q 5 min to a max of 10	Protocol amendment was brought forward at the PESPC and agreed upon to be amended to reflect best practices and safety for the practitioner and patient.

	cause respiratory depression and/or respiratory arrest in some patients so airway management is of utmost importance. **SPECIAL CONSIDERATIONS** 1. The Regional Medical Advisor will review each case where midazolam has been administered to insure its appropriate use. **INDICATIONS FOR USE OF HALOPERIDOL** For patients who are clearly experiencing acute psychotic episodes in the absence of a history of seizures, head injury, the use of QT prolonging drugs (Trycyclic Anti-Depressants, Procainamide, Stemetil etc.), drug toxicity (use of Cocaine, etc) Haloperidol may be administered as follows: **DOSAGE** 2.5 to 5 mg IM Elderly or debilitated patients (ie. underlying cardiac disease) 1.0 to 2.5 mg IM Do not inject intravenously Do not use under the age of 12 years. **SIDE EFFECTS** -hypotension -excessive sedation -seizure activity (may precipitate seizure activity in previously controlled epileptics) -dry mouth, blurred vision, "light headedness" -respiratory depression Occasionally extrapyramidal side effects may occur such as	mg Any need for administration beyond the stated maximums requires contact with medical control. **SIDE EFFECTS:** Intravenous midazolam may cause respiratory depression and/or respiratory arrest in some patients so airway management is of utmost importance. **SPECIAL CONSIDERATIONS** 1. The Regional Medical Advisor will review each case where midazolam has been administered to insure its appropriate use. (Protocol continues as previously described).	

	involuntary muscle activity (protrusion of the tongue, rolling of eyes, muscle rigidity, turning of neck, etc.) restlessness and anxiety. These side effects may be reversed with the administration of diphenhydramine as follows: 1.0 mg/kg to a max of 50 mg IV or IM **SPECIAL CONSIDERATIONS** 1. Injection will be with a 21-gauge needle deep into the gluteal muscle. 2. Decanoic acidester preparation (a long acting form of Haloperidol) is <u>not</u> to be used. 3. Safety in pregnancy has not been established. Only administer when in the opinion of the physician, the expected benefits of the drug outweigh the potential hazards to the fetus. 4. Peak clinical effect may not occur for up to 30 minutes. 5. Once patient has been sedated, place in physical restraints, if not already done. Patients placed in restraints in the prone position should be rolled on their side as soon as possible to minimize the risks of positional asphyxia. 6. Perform pulse oximetry if available. 7. Rule out treatable causes of acute agitation such as hypoxia and hypoglycemia prior to administration of haloperidol. If this is not possible because of extreme agitation, rule out these causes as soon as possible after the administration of haloperidol. 8. The Regional Medical Advisor will review each case where Haloperidol has been administered to insure its		

	appropriate use. 9. Treat side effects as per the appropriate protocol. Abnormal muscle activity can be controlled rapidly by the administration of anticholinergic or antiparkinsonian drugs at the receiving health care facility. 10. Haloperidol is a potent anti-psychotic agent. When in a service area where EMT-A or Paramedic service is available, **if the patients condition deteriorates**, arrange an ALS intercept.		
TP18 Spinal Assessment/ Clearance	No current protocol	Refer to algorithm	This protocol was developed and proposed through health regions where medical advisors took it upon themselves to set up trials or encouraged EMS services to implement and use the Canadian C-Spine Rules or the National Emergency X-Radiography Utilization Study (NEXUS) or a hybrid of them both. The protocol reflects what was done in the prehospital field and was approved for use at the PESPC. In some cases Spinal immobilization has been shown to be uncomfortable and cause complications in certain patients. Immobilization can expose patients to the risks of pain, skin ulceration,

			aspiration and respiratory compromise, and also result in unnecessary radiation exposure, longer hospital stays and increased costs to the health care system.
TP4 Musculoskeletal Trauma	The current protocol is written as: The **Paramedic** may proceed as follows: If extrication is required, the paramedic may choose to use either Nitronox or morphine for pain control as circumstances and patient condition dictate. Adult Dosage: Draw up in a 10-12 ml syringe, 10 mg (1ml) of Morphine with 9 ml of Normal Saline or Ringers Lactate. (This results in a concentration of 1mg/ml of solution) Inject 2-5mg (2-5ml) of solution, slow IV push (no faster than 2mg(2mls)/minute) This dose may be repeated in 10 minutes. Medical Control must be contacted for authorization of any further repeat doses	This will be now changed to read: The **EMT-P** may proceed as follows: If extrication is required, the paramedic may choose to use either Nitronox or morphine for pain control as circumstances and patient condition dictate. Adult Dosage: Infuse into an IV line containing Normal Saline or Ringers Lactate only. Draw up in a 10-12 ml syringe, 10 mg (1ml) of Morphine with 9 ml of Normal Saline or Ringers Lactate. (This results in a concentration of 1mg/ml of solution) Inject 2-5mg (2-5ml) of solution, slow IV push (no faster than 2mg(2mls)/minute) titrated to effect, keeping mindful of the patient's vital signs.	Protocol amendment to reflect what is currently done in the field and to mirror other protocols where morphine sulphate is used (this is what is currently being done in the amputation and burn protocols).
MP1 Anaphylaxis	(Only ALS portion of protocol listed): **Advanced Life Support** ***A. DOES NOT REQUIRE DIRECT MEDICAL CONTROL*** Initiate an IV TKO.	The new proposed MP1 Anaphylaxis protocol will also include a section for dealing with a minor reaction: The **EMT-P** may proceed as follows: If signs of moderate allergic reaction (i.e.	The change in this protocol is for a pathway of dealing with a minor allergic reaction; currently as it stands the EMT-P treating a minor reaction with only Benadryl (not using

	If the patient requires and advanced airway the EMT-A/Paramedic may insert a Combitube\ LMA\King LTA and ventilate. The Paramedic may choose to intubate and ventilate. Initiate cardiac monitoring, especially when medication will be used. The **EMT-A** may proceed as follows: If the patient is normotensive, 0.5 ml of 1:1,000 Epinephrine. a) Subcutaneously - into upper arm. b) Inject IM into the deltoid muscle (into the anterolateral aspect of the thigh in infants and small children) Pediatric dose of Epinephrine is 0.01 mg/kg or 0.01 ml/kg of 1:1000 Epinephrine to a maximum of 0.5 ml subcutaneously The **Paramedic** may proceed as follows: If the patient is normotensive, 0.5 ml of 1:1,000 Epinephrine (pediatric dosage is 0.01 ml/kg of Epinephrine 1:1000 or 0.1 ml/kg of Epinephrine 1:10,000) by one of the following routes, providing sufficient respirations exist: a) Subcutaneously - into upper arm. b) Inject IM into the deltoid muscle (into the anterolateral aspect of the thigh in infants and small children) c) 2.0 - 3.0 mg by the endotracheal route in an adult. If the patient is hypotensive,	itching, and/or urticaria only, no respiratory compromise) the Paramedic may administer: -Diphenhydramine 1mg/kg to a maximum dose of 50 mg by oral, IM or IV route. If the decision is to administer via IV route, the dose of diphenhydramine will be placed in a 50 or 100 ml minibag of normal saline and infused over 10 to 15 minutes.	epi) would be considered a deviation from protocol. While the practice of treating minor reactions has been historically done (under the guidance of medical control) it was still a deviation from protocol.

	administer 1.0 ml of 1:10,000 Epinephrine IV push slowly over several minutes in an adult. May be repeated once after five minutes if necessary. If bronchospasm is present, consider the use of Salbutamol. Following the injection of epinephrine: a) diphenhydramine 1mg/kg to a maximum dose of 50 mg by oral, IM or IV route *(route to be determined through contact with Medical Control)*. If the decision is to administer via IV route, the dose of diphenhydramine will be placed in a 50 or 100 ml minibag of normal saline and infused over 10 – 15 minutes, followed by; b) methylprednisolone 1 mg/kg IV, to a maximum of 125 mg, in a 50 to 100 ml minibag of normal saline over 15-20 minutes. **SPECIAL CONSIDERATIONS:** Diphenhydramine is contraindicated if hypotension is present.		
GP21 Intravenous Therapy	Accessing central lines	The amendment to the protocol will allow access to central lines by an EMT-P to administer fluid and medications as needed (whether it is on a transfer or house call).	The historical practice of EMS practitioners accessing central lines has varied from health region to health region (some only did it in cardiac arrest, etc.). However, as it currently is reflected in the protocol manual, central lines can only be accessed and used by an EMT-P for fluid or

			medication administration when a patient is being transferred from one health facility to another.
Protocol	**Current Protocol Reads**	**Protocol Amendment**	**Reason**
CP5 Tachycardias	Old 2005 algorithm and: **Adults** in a supraventricular tachycardia greater than 150 beats/minute who are in overt shock, or are hemodynamically unstable, (hypotension and associated symptoms such as chest pain, decreased level of consciousness) may undergo synchronized cardioversion as follows: 100 J ¯ if unsuccessful 200 J ¯ if unsuccessful 300 J ¯ if unsuccessful 360 J If synchronized cardioversion has been unsuccessful after 4 attempts contact medical control for further orders.	The recommended initial biphasic energy dose for cardioversion of atrial fibrillation is 120 to 200 J. The initial monophasic dose for cardioversion of atrial fibrillation is 200 J. Cardioversion of adult atrial flutter and other supraventricular rhythms generally requires less energy; an initial energy of 50 to 100 J with either a monophasic or a biphasic device is often sufficient. If the initial cardioversion shock fails, providers should increase the dose in a stepwise fashion.	2010 Canadian Heart and Stroke Guidelines
CP5 Tachycardias	Protocol Manual currently states: **For Adults in Stable Ventricular Tachycardia** • Lidocaine 1.0 – 1.5 mg/kg IV (2 – 4 mg/kg via endotracheal route) may be administered. For refractory VF Lidocaine may be repeated at 0.5 – 0.75 mg/kg IV push every 5 – 10 minutes, to a maximum of 3.0mg/kg. or Administer Amiodarone 150 mg in 100 mls of D5W over 10 minutes, repeat as needed, maximum dose of 2.2 g is	Adult stable monomorphic VT responds well to monophasic or biphasic waveform cardioversion (synchronized) shocks at initial energies of 100 J. If there is no response to the first shock, it may be reasonable to increase the dose in a stepwise fashion. No interim studies were found that addressed this rhythm, so the recommendations were made by writing group expert consensus. (p. S752).	2010 Canadian Heart and Stroke Guidelines

	given in a 24-hour period. If an infusion is initiated mix 450 mg of Amiodarone in 250 mls of D5W and run it over 6 hours (33ml/hr). 6. **Adenosine may be used if hypotension is present with associated symptoms, however, if at anytime, the patient develops shock, immediate synchronized cardioversion is indicated.**		
CP5 Tachycardias	Currently the protocol manual reads: • Initial Defibrillation >1 year 2J/kg repeated at 4J/Kg (Use Browslow Tape) • If treatments are ineffective up to this point medical control can be contacted to: Terminate the resuscitation and pronounce the patient dead if the criteria are met as outlined in the Death in the Field protocol. Transport the patient for further resuscitation to a health care facility.	For pediatric patients, the optimal defibrillation dose is unknown. There are limited data regarding the lowest effective dose or the upper limit for safe defibrillation. A dose of 2 to 4 J/kg may be used for the initial defibrillation energy, but for ease of teaching, an initial dose of 2 J/kg may be considered. For subsequent shocks, energy levels should be at least 4 J/kg; higher energy levels may be considered, not to exceed 10 J/kg or the adult maximum dose.	2010 Canadian Heart and Stroke Guidelines
CP3 **Pulseless Arrest**	Protocol manual has the old 2005 algorhithm (atropine still used in PEA/Asytole)	Atropine is not recommended for routine use in the management of PEA/asystole and has been removed from the ACLS Cardiac Arrest Algorithm. The treatment of PEA/ asystole is now consistent in the ACLS and pediatric advanced life support (PALS) recommendations and algorithms. (p. S739).	2010 Canadian Heart and Stroke Guidelines
ETCO2		Exhaled CO2 detection (capnography or colorimetry) is recommended in addition to clinical	2010 Canadian

		assessment to confirm tracheal tube position for neonates, infants, and children with a perfusing cardiac rhythm in all settings (eg, prehospital, ED, intensive care unit, ward, operating room) and during intrahospital or interhospital transport Continuous capnography or capnometry monitoring, if available, may be beneficial during CPR to help guide therapy, especially the effectiveness of chest compressions (Figure 3B on page 13).	Heart and Stroke Guidelines
GP18 Pediatric Drug Dosages	The current dose as listed in the protocol manual is: ***25% Dextrose*** -1 ml/kg (0.25 mg/kg) This same dose has been in place since the inception of the protocol manual.	Current literature has suggested a different dosage: - 25% dextrose (0.25 g/ml); give 2-4ml/kg.	CURRENT PALS = 2-4mL/kg of D25W
MP4 Hypoglycemia	The pediatric dosage for the intravenous administration of glucose is l ml/kg of D25W	- 25% dextrose (0.25 g/ml); give 2-4ml/kg.	CURRENT PALS = 2-4mL/kg of D25W
GP15 Airway Control	Combitube\LMA\King LTA will not be inserted in any patient: 1) under the age of 16 years or under 5 feet in height, 2) patients with known esophageal disease 3) patients who have ingested caustic substances.	1) Please refer to manufacture's guidelines for inserting the proper size of the device 2) patients with known esophageal disease 3) patients who have ingested caustic substances.	There are now a variety of subglottic airways can be used in adult and pediatric patients.
GP15 Airway Control		Protocol now contains the Medicated Facilitated Intubation (MFI) protocol	EMT-P practitioners will not be allowed to use the MFI portion of the protocol until completing an approved education module from the Saskatchewan College of

			Paramedics. Practitioners will have a grace period of 6 months for training. However, if services are ready to do their approved training ahead of the 6 month grace period, they may use the protocol.
MP8 Childbirth	The current protocol does not list the use of entonox for pain control in active labour. However in an older version of the protocol manual under A38 Nitrous Oxide Protocol it states: *A. Does not require direct Medical Control.* The ALS provider may use nitrous oxide as an analgesic for pain relief without contacting medical control in the following instances: fractures and/or dislocation of extremities; burns without airway involvement; amputations; and maternity cases in active labour.	Protocol will be revised to allow the use of entonox for pain control for patients in active labour	Some protocols were removed (or rather set aside) from the protocol manual due to space constraints. This was a decision that was made at the Provincial Emergency Services Practice Committee (PESPC).
IP1 INTER-FACILITY TRANSFER of PATIENTS RECEIVING MEDICATIONS		Added crystalloid IV solutions to each of the classification	Address current gaps in the protocol manual (e.g.-without adding this into the manual a patient with a 2/3-1/3 IV line would have to be transferred by a nurse).
Scope of Practice Chart		Expanded the method of delivery for some medications.	