



#### Southwest Ontario Regional Base Hospital Program Update

#### The Patch Phone and You Dr Dukelow

Dr Lewell

## Outline

- Overview of EMS in Ontario
  - What is Base Hospital?
  - SWORBH Structure
  - MAC & EHS
- Paramedic Training & Skill Levels
- Education & Quality Roles of SWORBHP
  - Re-certification
  - ACR Audits
  - Activation / Deactivation Procedures
- The Patch Phone
- New Equipment / Procedures
- On the Horizon....





## **Provincial MAC and EHS**

- 7 Regional Medical Directors form MAC
- Meetings quarterly (at least) in Toronto
- Review literature
- Create, Review & Revise "Protocols"
- Recommend Equipment changes / additions
- Make decisions for Medical Directives
  - These are then submitted to MOHLTC EHS
  - Also approved at the municipal level via AMEMSO
- Various sub-committees (education, ethics)



## Role of a Base Hospital

- Direction & Oversight of delegated medical acts
  - Creation / Revision of Protocols
  - Electronic, Peer and MD Audits of calls
  - Action Based on Audits
  - Yearly Recertification
  - Continuing Medical Education
  - Education of Residents etc.



# **Base Hospital Facilities**



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# **REAL Base Hospital Facilities**





#### **SWORBHP**– Structure





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# SWORBH – Geography



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## SWORBHP- What Is The Region?

- Regionally:
  - 1400 paramedics
  - 11 Services
  - 1.65 million population
  - 238 K Patient contacts / year
- Locally:
  - PCP Only Elgin, Perth, Oneida
  - ACP and PCP Oxford, Middlesex
  - 490 Paramedics (60 ACP, 430 PCP)



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## PCP vs. ACP

#### • PCP

- 2 year College program
- Ministry Exam (EMCA)
- Orientation Period (Service Dependent)
- Certified by local Base Hospital
- ACP
  - 8 months 1 year College program
  - Approximately 50% practical
    - 6 weeks hospital, 10 weeks preceptorship
  - Local Base Hospital Certification



# PCP – Primary Care Paramedic

#### • All procedures in province of Ontario BLS Patient Care Standards

- Semi-Automated External Defibrillation (SAED)
- Basic Cardiac and O2 Sat monitoring
- Oral airway & BVM
- Base Hospital patching (specific / unusual circumstances)
- Symptom Relief drug administration and procedures
  - ASA
  - Nitroglycerin
  - Salbutamol
  - Blood glucometry / Glucagon
  - Epinephrine 1:1,000 (SC / Nebs)
  - Oral Airway and BVM

#### • "PCP + Skills"

- IV access & fluid administration
- 12-lead ECG acquisition



# ACP – Advanced Care Paramedic

- Advanced patient assessment
- Base Hospital patching (medic's discretion)

• Procedures:

- Advanced cardiac monitoring
- Rhythm interpretation
- 12-lead ECG acquisition
  AED/manual defibrillation
  Valsalva Maneuver

- Synchronized cardioversion
- TC pacing
- IO Access

- IV access & fluid administration
- Laryngoscopic removal of FBs
  Nasal & oral tracheal intubation
- End Tidal CO<sub>2</sub> monitoring
- Cricothyrotomy
- Needle Thoracostomy
  IM/IN drug administration



## SWORBHP- ACP Drugs.....

- Adenosine
- Amiodarone
- Atropine
- Dextrose
- Diazepam
- Dopamine
- Epinephrine 1:10K & 1:1K
- Furosemide
  - (on the order of a BHP only)

- Lidocaine
- Midazolam
- Morphine
- Naloxone
- Sodium Bicarbonate
- Fentanyl

Medical Procedures List							
Primary Care	Advanced Care	Critical Care					
2-Way patch	Advanced Care scope of practice includes all	Critical Care scope of practice includes all of the skills from the Primary and Advanced Care scope of practice and in addition:					
Ambu Pefit ACE adjustable cervical collar	of the skills from the Primary Care scope of						
Asherman chest seal	practice and in addition:						
Broselow Tape®	12, 15 & 18-lead Electrocardiogram	Arterial line monitoring					
Cardiac Monitoring (LP12) Lead II	interpretation	Balloon tampenade of gastroesophageal					
Finger/Heel-stick glucometer evaluation	3-way patch	varices monitoring (ie. Blakemore tubes)					
Hi-Ox 80 disposable High FiO2 mask	Accessing central venous catheters	Bimanual uterine massage					
Infant Trans-Warmer mattress & warming gel	Addition of medication to IV bag or bottle	BiPAP					
Intramuscular injection	Alaris Medsystem III™ Multi-channel infusion	Brandt maneuver (delivery of placenta)					
IV Bag pressure infuser	pump	HELPER maneuvers for Shoulder Dystocia					
Metered-Dose Inhaler (MDI)	Blood product transfusion	Intra-aortic balloon pump monitoring					
Nasopharyngeal airway insertion	Capnography EtCO2 (Intubated & Non-	Intracranial Pressure Monitoring					
Oropharyngeal airway insertion	intubated patients)	Peripheral umbilical vein catheterization					
Pulse oximetry	Cardiac Monitoring (LP 12) all leads	Pulmonary artery catheter monitoring					
Semi-automatic external defibrillation	Chest drainage systems	Pulmonary artery catheter removal					
Subcutaneous injection	Cricoid pressure	Reverting uterine inversion					
	Crossvent-4 mechanical ventilation	Transport Isolette					
	Disposable Colorimetric EtCO2	Transvenous pacing					
	Doppler ultrasound assessment	Umbilical Vein Catheterization					
	Endotracheal suctioning						
	External jugular vein cannulation						
	Field Extubation						
	Foreign body removal with McGill forceps						
	Gastric intubation						
	Gum Elastic Bougie						
	Infant scalp vein cannulation						
	Intraosseous access with EZ-IO <sup>™</sup> device	]					
	Intraosseous access with screw-type device						
	ISTAT Analyzer						
	Laryngeal Mask Airway (LMA)						
	Lighted stylet transillumination intubation						
	LTV 1000 Mechanical Ventilation						
	Manual defibrillation						
	Nasotracheal intubation						
	Needle thoracostomy						
	Orotracheal intubation						
	Pediatric defibrillation	]					
	Pediatric IO access (EZ-IO™ device)						
	Pediatric IO access (screw-type device)						
	Pediatric needle cricothyrotomy						
	Pediatric orotracheal intubation						
	Pediatric peripheral vein access						
	Peripheral intravenous cannulation						
	Pre-load syringe use						
	Quicktrach® Needle Cricothyrotomy						
	Rapid Sequence Intubation						
	Synchronized cardioversion						
	Transcutaneous pacing						
	Urinary catheterization						
	V.E.I.D Vein Entry Indicator Device						



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Acadystallergiter Acid (ASA) Glucagon (M or SC)       In addition to the recisions in the column to he left, the Advanced Care Flight Rammer may administer the following medications.       In addition to the crist Care Flight Rammer may administer the following medications.         Starval (PO)       IIB/BIII Plateled thibbiton Corport 10(1)       Academicage the following the crist of medications.       In addition to the crist of medications.         Starval (PO)       Academicage the following the following acid the following the following acid the fo	Primary Care Flight Paramedic	Advanced Care Flight Paramedic	Critical Care Paramedic	
Eliveptine (SC, M, et Nebulack) Glazage (M or SC)       IBIII AP Related Inhibitors may administer any medications, give farva (PO)       IBIII AP Related Inhibitors account of the SC of	Acetylsalicylic Acid (ASA)	In addition to the medications in the column to	In addition to the mediantians in the form	A REAL PROPERTY OF A READ REAL PROPERTY OF A REAL P
Glucagon (IM or SC)       migratimister the following medications: Wroghoam (SL)       Acataminophin         Nitroghoam (SL)       Acataminophin       Controlled area and controled area and controlled area and controlled area and con	Epinephrine (SC, IM, or Nebulized)			SN ///
Graval (PO)       IIBIIIA Platelet Inhibitors       That they are finiting with the drug and control table with a field of medications that may be available of citrate Care Land without and a field of medications that may be available of citrate Care Land without and a field of medications that may be available of citrate Care Land without and a field of medications that may be available of citrate Care Land without and a field of medications that may be available of citrate Care Land without and a field of medications that may be available of citrate Care Land without and a field of medications that may be available of citrate Care Land without and a field of medications that may be available of citrate Care Land without and a field of medications that may be available of citrate Care Land without and a field of medications that may be available of citrate Care Land without and a field of medications that may be available of citrate Care Land without and the care Land		may administer the following medications:		101 191
Oxygen         Areptysteme Sodium         following is list of medications that may be available on Citato Care Land vehicles and aircraft.           Salbutamol (nebulized and MD)         Advaded Charcoal         Digitals         Digitals           Antodrore         3% Saline         Digitals         Digitals           Antodrore         3% Saline         Digitals         Digitals           Cacium Choride         Ergonovine         Ergonovine         Ergonovine           Calcium Choride         Ergonovine         Ergonovine         Ergonovine           Desamethasone         Hermabate         Hyrochoride         Ergonovine           Difference         Ergonovine         Ergonovine         Ergonovine           Difference         Hermabate         Hyrochoride         Ergonovine           Difference         Hermabate         Hyrochoride         Ergonovine           Difference         Ergonovine         Ergonovine         Ergonovine           Difference         Difference         Hermabate         Hermabate           Difference         Ergonovine         Ergonovine         Ergonovine           Difference         Ergonovine         Ergonovine         Ergonovine           Difference         Ergonovine         Ergonovine         Ergonovine <td></td> <td>IIB/IIIA Platelet Inhibitors</td> <td></td> <td></td>		IIB/IIIA Platelet Inhibitors		
Sabutamo (nebulized and MDI)       Addressian       De evaluation on critical Care Land vehicles         Adrosa       Adrosa       3% Seline       3% Seline         Anticolar       Dillazem       Dillazem       0         Atrosa       Dillazem       Dillazem       0         Calcum Choride       Ergonovine       Ergonovine       0         Calcum Choride       Ergonovine       Ergonovine       0         Desamethasorie       Hempate       0       0       0         Discepani (Vand PR)       Ketamine       0 <t< td=""><td> Nitroglycerin (SL)</td><td>Acetaminophen</td><td></td><td></td></t<>	 Nitroglycerin (SL)	Acetaminophen		
Salbutemol (nebulized and MDI)       Adronsino       De available on Critical Care Land vehicles         Anticolarone       3% Saline       Digitalis         Anticolarone       3% Saline       Dilitazem         Bravilrudin (Angiomax)       Dobuttamine       Ergonovne         Calcum Chloride       Ergonovne       Ergonovne         Calcum Chloride       Ergonovne       Ergonovne         Desamethasone       Hemabate       60% Destrose in Water       Hydralozine         Diphentydrame       Norgenpethne       Norgenpethne       Doptentydrame         Diphentydrame       Norgenpethne       Propotol       Ergonovne         Elimidati       Salbutemol, (// Salbutemol, // Salbutemol, /	Oxygen	Acetylcysteine Sodium		
Adenosine     3% Saline       Amicolorope     3% Saline       Antzol     Digitals       Aropone     Dituzerne       Bivelitudin (Angiornax)     Dottulamine       Calcium Chiolide     Ergonovine       1 Galcum Chiolide     Ergonovine       1 Gentarismin     Esmolt HyuiteInorde       0 Dimensione     Hernabate       50% Destrose in Water     HyuiteInorde       Dimensione     Hernabate       Dimensione     Nermabate       Basenin     Sabutemol, No       Happendiol     Stormethy       Hepparin     Sabutemol, No				
Antizol     Digitalis       Biralirudin (Angiormax)     Dobutamine       Calcium (Chiorde     Ergonovine       Catazolin     Esmokil Hydrozhioride       Cefrazone     Etomidate       Daxamethasone     Hemabate       50% Dextrose in Water     Hydralazme       Diazopam (IV and PR)     Ketamine       Dimentydrimine     Noropineghrine       Dimentydrimine     Noropineghrine       Diparatine     Procesimide       Firmaphrine (IV)     Procesimide       Firmaphrine (IV)     Procesimide       Firmaphrine (IV)     Procesimide       Firmaphrine (IV)     Procesimide       Firmazenil     Salbutamol, IV       Haloperidol     Haloperidol       Haparin     Insulin       Ipratogizing Brownide     Stemetil       Magnesium Suffate     Magnesium Suffate       Medizolam     Medizolam       Medizolam     Midazolam       Midazolam     Nelixoone       Nelixoone     Nelixoone       Medizolam     Partospanic       Partospanic (Pantaloc)     Partospanic       Partospanic (Pantaloc)     Partospanic       Partospanic (Pantaloc)     Partospanic       Partospanic (Pantaloc)     Partospanic       Partospani     Phanytohin		Adenosine	and aircrait.	ornae
Mropine     Diliazem       Bivalitudi (Angomax)     Dobutamine       Calaum Chloride     Ergonovine       Ceffrizone     Elomidale       Desamethassone     Hernabate       50% Doxtrose in Water     Hydralizine       Dilazegam (V and PR)     Ketamine       Dilazegam (V and PR)     Ketamine       Dilazegam (V and PR)     Ketamine       Dipentyrdiratie (V)     Mitimone       Dipentyrdiratine     Norginachine       Dipentyrdiratie     Propolol       Filmazenti     Saltutamol, IV       Funzenti     Saltutamol, IV       Halopentol     Halopentol       Interpretion     Norginachine       Narginachine     Saltutamol, IV       Funzenti     Saltutamol, IV       Funzenti     Saltutamol, IV       Halopentol     Halopentol       Halopentol     Interpretion       Magnesium Sulfate     Magnesium Sulfate       Methylpredrisolone     Mitoglorein       Morphine Sulfate     Naltozone       Magnesium Sulfate     Naltozone       Methylpredrisolone     Methylpredrisolone       Methylpredrisolone     Mitoglorein       Morphine Sulfate     Naltozone       Pentaspan     Pentaspan       Partoprazole (Pantaloc)     Protospan		Amiodarone	3% Saline	
Bivalirudin (Angiomax) Dobutamine Calcium Chlonde Ergonovine Cefazolin Esmolol Hydrochlonde Dexamethasone Hemabate Dexamethasone Hemabate Diazepam (IV and PR) Ketamine Diazepam (IV and PR) Ketamine Dipenhydramine Norepinophrine Dopamine Phenobarbiol Epinephrine (V) Procainamide Fentanyi Propofol Fiumazenii Salbutamol, IV Furoazenii Salbutamol, IV Haloperidol Insulin Insulin Iparatogrium Bromide Labetolol Labetolol Magnesium Sulfate Magnesium Sulfate Magnesium Sulfate Magnesium Sulfate Magnesica Sternetii Nitroglycemi (IV and Topical Spray and IV Preparation) Magnesica Sternetii Magnesica Sternetii Pertospatole (Paratopical Spray and IV Preparation) Eabetolol Magnesica Sulfate Magnesica Sulfate Magnesica Sulfate Magnesica Sulfate Pentaspan Pentaspan Phentycion Patospato (Pantaloc) Patospato (Pantaloc) Pentaspan Phentycion Patospato (Pantaloc) Patospato (Pantaloc) Potassum Chloride Rocuronium		Antizol	Digitalis	A Description of the second
Calcium Chioride     Ergonovine       Cefrazone     Etomoletydrochloride       Dexemethasone     Hernabate       50% Dextrose in Water     Hydralazine       Diazopan (V and PR)     Ketamine       Dimentydrinate (V)     Mininone       Dipterbydramine     Norepinephrine       Doparnine     Phenobatatio       Fertanyi     Proconamude       Fertanyi     Proconamude       Furosenide     Stemetil       Habgorido     Hegoan       Instain     Selbutanoi, IV       Hapanin     Stemetil       Magnesium Suffate     Mary       Magnesium Suffate     Mary       Magnesium Suffate     Magnesium Suffate       Magnesium Suffate     Madoxine       Magnesium Suffate     Madoxine       Madoxine Suffate     Naloxone       Matoprolo     Patospani       Patospani     Patospani       Patospani     Patospani       Madoxole     Patospani       Patospani     Patospani       Pataspan     Patospan				and the second
Cefazoin     Esmoloi Hydrochloride       Ceffraxone     Esmoloi Hydrochloride       Doxamethasone     Hemabate       50% Dextrose in Water     Hydralazine       Diazepam (IV and PR)     Ketamine       Dimentsydmate (IV)     Mitrinone       Diphenthydramine     Norepinephrime       Dopamine     Phenobarbiol       Enrophrine (IV)     Propolol       Enrophrine (IV)     Propolol       Filmazeni     Salbutamol, IV       Furosemide     Sternetil       Heparin     Insulin       Insulin     Ipratropium Bronide       Locaracepam     Mannoi 20%       Mannoi 20%     Mannoi 20%       Metoproloi     Metoproloi       Mannoi (V and Topicaliy)     Oxydoain       Oxydoain     Naloxone       Nitroglocenin (V and Topicaliy)     Oxydoain       Pentaspan     Pentaspan       Pentaspan     Pentaspan       Magnozia (Pantaloc)     Pentaspan       Pentaspan     Pentaspan       Potossum Chindlec)     Pentaspan       Pentaspan     Pentaspan       Potossum Chorde     Pentaspan       Potossum Chorde     Rocuronium       Socium Bicarbonate     Sucuronium				
Ceftriaxone     Elomidate       Dexamethasone     Hemabale       50% Dextrose in water     Hydralazine       Diazepam (IV)     Mitimone       Dimentrydinate (IV)     Mitimone       Diphenhydramine     Noregineghtine       Deparinie     Phenobathlol       Epinephtine (IV)     Proceanamide       Flumazonii     Salbutamol, IV       Haloperidol     Stemetil       Haloperidol     Insulin       Ipartopical Stray     Ametido       Manuel V Preparation     Stemetil       Manuel Z0%     Matoxine       Metoprolol     Matoxine       Matoxine     Morphine Sulfate       Matoxine     Morphine Sulfate       Natoxine     Pentaspan       Pattoprecision     Pentaspan       Pentaspan     Pentaspan       Matoxine     Morphine Sulfate       Matoxine     Pentaspan       Pentaspan     Pentaspan       Potassum Choride     Sudum Bicathonate       Sudum Bicathonate     Sudum Bicathonate				
Dexamethasone     Hemabate       5% Dextrose in Water     Hydralazine       Diazegam (// and PR)     Ketamine       Diphentydranite     Notepinephrine       Diphentydramite     Notepinephrine       Diphentydramite     Phenodothold       Epinephrine (IV)     Procommide       Fernaryl     Propofol       Flumazenil     Salutamoi, IV       Habperidol     Startamoi, IV       Heparin     Insulin       Insulin     Insulin       Ipatropium Bromide     Startamoi, IV       Lidocaine (IV) and Topical Spray     and IV Preparation)       Lidocaine (IV) and Topical Spray     and IV Preparation)       Labetolol     Mamnitol 20%       Metrypredi     Matoxine       Morphine Sulfate     Morphine Sulfate       Nitropycenin (IV and Topical)     Pontagan       Pentasgan     Pentasgan       Phentascie     Pentasgan       Phentascie     Pentasgan				
50% Dextrose in Water     Hydralazine       Dizepam (IV and PR)     Ketamine       Dimenhydrinate (IV)     Mitrinone       Doparnine     Phenobarthitol       Doparnine     Phenobarthitol       Epinephrine (IV)     Procanamide       Flumazenil     Salbutamol, IV       Flumazenil     Salbutamol, IV       Haloperidol     Haloperidol       Haloperidol     Insulin       Lidocaine (IV and Topical Spray and IV Preparation)     Stemetil       Labetolol     Lorazepam       Mannitol 20%     Methypredinsclone       Methypredinsclone     Norphine Sulfate       Morphine Sulfate     Norphine Sulfate       Notophine     Pentograpan       Pantograzole (Pantaloc)     Pentograpan       Pentograpan     Phentograpan       Morphine Sulfate     Norphine Sulfate       Notophine     Phentograpan       Pentograpan     Phentograpan       Morphine Sulfate     Notophine       Notophine     Phentograpan       Phentograpan     Phentograpan       Methypredinisochne     Nitroglycerin (IV and Topically)       Oxythorin     Phentograpan       Phentograpan     Phentograpan       Sodium Bicarbonate     Phentograpan       Phentograpan     Phentograpan <td></td> <td></td> <td></td> <td></td>				
Diazepam (IV and PR)     Ketamine       Dimenhydrinate (IV)     Miltrinone       Diphenhydranite     Norepinephrine       Doparnine     Phenobartitol       Epinephrine (IV)     Pricocainamide       Fentanyl     Propofol       Flumazenil     Salbutamol, IV       Haloperidol     Stemetil       Happarin     Insulin       Insulin     Insulin       Lidocaine (IV and Topical Spray and IV Preparation)     Stemetil       Labetolol     Lorazepam       Magnesium Sulfate     Metoprolo       Metoprolo     Metoprolo       Modzolam     Metoprolo       Modzolam     Modzolam       Portospan     Portospan       Postosum Sulfate     Natoxone       Natoxone     Pentoprazole (Pantaloc)       Pertenspan     Pentoprazole (Pantaloc)       Pertenspan     Pentoprazole (Pantaloc)       Pertenspan     Pentoprazole (Pantaloc)       Pertenspan     Phenyton       Phenyton     Phenyton       Potassium Chinide     Rocuronium       Sodium Bicarbonate     Sodium Bicarbonate				
Dimentydramine     Norephrephrae       Diphenhydramine     Norephrephrae       Diphenhydramine     Phenobarbiol       Epinephrine (IV)     Procainamide       Fentanyl     Propofol       Flumazenil     Salbutamol, IV       Flumazenide     Stemetil       Haloperidol     Insulin       Inpartorpium Bromide     Stemetil       Lidocatine (IV and Topical Spray and IV Preparation)     Labetolol       Labetolol     Lorazepam       Matayoedin     Methylprednisolone       Methylprednisolone     Methylprednisolone       Mitroglocein     Insulia       Pantorpzicke (Pantaloc)     Pantorpzicke (Pantaloc)       Pantoprzacke (Pantaloc)     Pantoprzacke (Pantaloc)       Pantoprzacke (Pantaloc)     Pantoprzacke (Pantaloc)       Pontossun     Chorical       Rocuronium     Sodium Bicarbonate			· · · · · · · · · · · · · · · · · · ·	
Diphenhydramine     Norepinephrine       Dopamine     Phenobarbitol       Epinephrine (IV)     Procainamide       Fentanyi     Propool       Flumazeni     Salbutamol, IV       Fluosemide     Stemetil       Haloperidol     Stemetil       Insulin     Insulin       Ipratropium Bromide     Ipratropium Bromide       Lidocaine (IV and Topical Spray and IV Preparation)     Icorazepan       Magnesium Suffate     Manntol 20%       Methylprednisolone     Midazolam       Midazolam     Morphine Suffate       Naloxone     Nitroglycerin (IV and Topical))       Oxytocin     Pantoprazole (Pantaloc)       Pantoprazole (Pantaloc)     Pantoprazole (Pantaloc)       Pantoprazole (Pantaloc)     Phenytoin       Phenytoin     Scdium Bicarbonate       Scducin Kicholine     Scducinkicholine				
Dopomine     Phenobarbitol       Epinephrine (IV)     Procainamide       Fentanyl     Propolol       Flumazenil     Salbutamol, IV       Haloperidol     Helparin       Insulin     Insulin       Ipratropium Bromide     Stemetil       Lidoccaie (IV and Topical Spray and IV Preparation)     Labetolol       Lorazepam     Magnesium Sulfate       Magnesium Sulfate     Methylprednisolone       Methylprednisolone     Natoxone       Nitroglycerin (IV and Topically)     Oxytocin       Oxytocin     Oxytocin       Pantoprazole (Pantaloc)     Pentaspan       Pentaspan     Pentaspan       Phenytoin     Pentaspan       Phenytoin     Pentaspan       Phenytoin     Pentaspan       Phenytoin     Bicucinytcholine				
Epinephrine (IV)     Proceinamide       Fertanyl     Propotol       Flumazenil     Salbutamol, IV       Flurosemide     Stemetil       Haloperidol     Insulin       Ipatropium Bromide     Iteration       Lidocaine (IV and Topical Spray)     and IV Preparation)       Labetolol     Labetolol       Lorazeparm     Magnesium Suffate       Magnesium Suffate     Methyprednisolone       Methyprednisolone     Mitogloemi       Morphine Suffate     Naloxone       Nitroglverin (IV and Topically)     Oxytocin       Oxytocin     Pentaspan       Potassium Chioride     Phenytoin       Phenytoin     Phenytoin       Sodium Bicarbonate     Sodium Bicarbonate				
Fentanyl     Propofol       Flunazenil     Sabutamol, IV       Furosemide     Stemetil       Halopendol     Insulin       Ipratrojum Bromide     Itenetil       Lidocaine (IV and Topical Spray and IV Preparation)     Itenetical       Lobetolol     Itenetical       Magnesium Sulfate     Mannitol 20%       Methylprednisolone     Methylprednisolone       Morphine Sulfate     Naloxone       Naloxone     Nitroglycerin (IV and Topically)       Oxytocin     Pentaspan       Potassium Chloride     Potassium Chloride       Rocuronium     Sodium Bicarbonate       Sodium Bicarbonate     Succinytcholine				
Flumazenia     Salbutamol, IV       Flurosemide     Stemetil       Haloperidol     Itematil       Heparin     Insulin       Ipratropium Bromide     Itematil       Lidocalne (IV and Topical Spray     and IV Preparation)       Labetolol     Itematil       Magnesium Sulfate     Magnesium Sulfate       Methylprednisolone     Methylprednisolone       Midazolam     Midazolam       Morphine Sulfate     Naloxone       Nitroglycerin (IV and Topically)     Oxytocin       Pentaspan     Pentaspan       Portassium Chloride     Phenytoin       Portassium Chloride     Rocuronium       Sodium Bicarbonate     Sodium Bicarbonate				
Furosemide     Stemetil       Haloperidol       Heparin       Insulin       Ipratropium Bromide       Lidoceine (IV and Topical Spray and IV Preparation)       Labetolol       Lorazepam       Magnesium Sulfate       Methylprednisolone       Methylprednisolone       Morphine Sulfate       Naloxone       Nitroglocerin (IV and Topically)       Oxytocin       Pantoprazole (Pantaloc)       Pentaspan       Phenytoin       Phenytoin       Sodium Bicarbonate       Sodium Bicarbonate				
Haloperidol Heparin Insulin Ipratropium Bromide Lidocaine (IV and Topical Spray and IV Preparation) Labetolol Labetolol Lorazepam Magnesium Sulfate Mannitol 20% Methylprednisolone Methylprednisolone Methylprednisolone Midazolam Morphine Sulfate Naloxone Nitroglycerin (IV and Topically) Oxytocin Pantoprazole (Pantaloc) Pentaspan Phenytoin Phenytoin Otystocin Orbino Thoride Rocuronium Sodium Bicarbonate Sodium Bicarbonate				
Heparin Insulin Ipratropium Bromide Lidocaine (IV and Topical Spray and IV Preparation) Labetolol Labetolol Lorazepam Magnesium Sulfate Mannitol 20% Methylprednisolone Methylprednisolone Metoprolol Midazolam Morphine Sulfate Naloxone Nitroglycerin (IV and Topically) OXytocin Pentaspan Pentaspan Phenytoin Phenytoin Potassium Chloride Rocuronium Sodium Bicarbonate Sodium Bicarbonate			Oternetii	
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Sodium Bicarbonate Succinylcholine				
Succinylcholine				
Thiamine		Thiamine		
TNKase				
Vecuronium				
Xylometaxoline HCI		Xylometaxoline HCI		

#### Outline

- Overview of EMS in Ontario
  - What is Base Hospital?
  - SWORBH Structure
  - MAC & EHS
- Paramedic Training & Skill Levels
- Education & Quality Roles of SWORBHP
  - Re-certification
  - ACR Audits
  - Activation / Deactivation Procedures
- The Patch Phone
- New Equipment / Procedures
- On the Horizon....



## **Quality Assurance**

#### Audits

- All calls with a delegated medical act & VSA Calls
- Percentage of non delegated calls
- Categories for level of variance assigned
  - Mild, Moderate, Critical
    - Minor may be audit to file
    - Major meeting with MD +/- deactivation
- Remediation plan implemented
- Re-evaluation & Re-Activation



#### Education

- Mandatory 8 hours CE for PCP per year
- Mandatory 24 hours CE ACP per year
- Annual Recertification (8 Hours)
  - Protocol review
  - New directives
  - Quiz
    - Medical Math
    - Drug Dosing
    - Protocols



## **Education – Special Projects**

- 12 Lead ECG
- STEMI Protocol
- Stroke Bypass Protocols
- PHTLS
- CPAP
- MCI
- Combat Casualty Care



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## SWORBHP- Patching

- What is with the black phone?
- Why do I hear the red phone ring?
- "Can I have a physician for a paramedic patch"
- What do they want from me?
  - Series of built in patch points
  - Usually at a place where MD input needed
- What is in it for me?
  - SWORBHP contributes financially to the EMA
  - Unique Medical Challenges
  - Interaction with energetic group of colleagues



## SWORBHP- Patching

• What do they want from me on the phone?

- Pronouncement (ACPs or TOR in Trauma)
- Medications
- Unusual circumstances
  - medical knowledge vs. operational advice
- Direction in dynamic arrest / very sick patient



## Patching – Pronouncement

• No one wants a *LAZARUS....* 

• Be wary of pronouncing if:

- PEA ? Profound hypotension
- No public places
- Patient is in the ambulance
- Not all procedures complete?
- Should usually be ACP

• When in doubt......Transport!



## Patching – Medications

- Consider transport time for all....
- Adenosine
  - Stable, 12 lead first, narrow vs wide...
- Bicarb
  - TCA, DKA, Crush, Renal failure/ dialysis unit
- Midaz / Fentanyl
  - Sedation for cardioversion or pacing
- Morphine
  - Usually for isolated extremity injury
  - Be wary of the undifferentiated abdominal pain..



## Patching – Medications

#### Narcan

• Be wary the violent patient

• Single medic in moving truck - can it wait?

#### Amiodarone

• Post arrest or stable wide complex

#### • Epi

• Ischemic heart disease in anaphylaxis

• Croup, Asthma, Anaphylaxis, Arrest



## Patching – Medications

#### Dopamine

- Post arrest- often forgotten
- Symptomatic bradycardia

#### • Atropine

- Symptomatic bradycardia
- Don't forget pacing or dopamine...
- Very difficult for medic to sedate and pace



## Patching - Unusual circumstances

- Essence of off line (protocol based) control is that it is impossible to have protocol for every circumstance
- Medic trained to patch for direction
  - Often will identify options for you
  - Usually answer is clear, just need your OK
  - Use common sense
- DNR often an issue.....recent case



## Patching -TOR - Blunt Trauma

PCP and ACP

 Allows for pronouncement if multisystem & non-shockable VSA with MD order

- PCP will patch
- Must establish patient contact and analyze once

• Always can transport at MD discretion!



## Patching - TOR - Penetrating

#### • ACP and PCP

 VSA & NO pupil response & NO spontaneous movement

- Asystole Patch for TOR
- PEA >20 min away Patch for TOR
- PEA < 20min Transport

• Remember – always can transport but low survival and not without risk to rescuer and public.

## Patching – Dynamic Arrest

- Usually 3 "rounds" & patch
- Paramedic sometimes patch early for bicarb
- Common sense approach
  - If everything done and asystolic....
  - Is arrest to your standard
  - Are they
    - Still shockable
    - Young / PEA
    - Public Place
    - Paramedic / family overwhelmed



## **Pediatric Specifics**

Arrest Protocols are the same
TOR – does not apply to < 16</li>
Pediatric Specific Protocols

Croup

- Neonatal Resus
- Defib < 8 yo later



## **Pediatric Defibrillation**

- EHS has given direction to MAC to create protocols for PCP medics to defibrillate pediatric patients via 1 of the following options:
  - Pediatric Attenuator Cables
  - Manual Defib with Education
  - Adult Cables and Energies

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# What's New in Local EMS – KING LT

- A "supra-glottic" airway
- PCP medics
  - VSA patients
- ACP Medics
  - Rescue airway OR
  - Arriving on scene and already inserted by PCP


## King LT – Anatomy





## King LT In Situ





## King LT Sizing

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# KING LT Insertion

#### New Equipment – Adult IO



Adults - 2 Peripheral IV attempts then to IO
Pediatrics - VSA

- May use for 24 hours after insertion

- Easier to Remove with insertion "cap"



## Easy IO insertion Video



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London Health Sciences Centre Southwest Ontario Regional Base Hospital Program

#### New Horizons.....

#### STEMI Redirect

- Multiple issues transmit, no transmit
- ER overcrowding
- After hours cath lab
- ER MD work load
- Over triage and under triage
- Collaborative approach ER/ EMS/ Cardiology
- The time has come.....



#### New Horizons....

#### • CPAP

- Controversial
- In multiple sites already
- Compelling small trials
- Not soon to local areas
  - Lambton and Grey closest



#### New Horizons....

#### Research

- At the local level
  - Recently discharged patients who undergo out of hospital cardiac arrest
  - Use of the Auto Pulse Automated CPR device
  - STEMI Times and QA
- Huge potential for more projects with QA slant
  - Ex. Agreement of CTAS scoring



#### • ROC

- Resuscitation Outcomes Consortium (ROC)
- Crystallized out of OPALS
  - Ontario Pre-hospital ALS
- Dr Dreyer chief investigator locally
- Multiple current projects
  - ITD
  - Hypertonic Saline
  - Quality of CPR
  - Analyze Early vs Late



#### AMEMSO

- Association of Municipal EMS Operators
- Strong voice at the MAC
- Provides balance between what is best evidence practice and implications for operations

#### NAEMSP

- National Association of EMS Physicians
- US based organization with excellent on line resource for position papers, research, courses, publishes *Prehospital Emergency Care*
- Large EMS conference annually attended by most.



#### • CACC

- Central Ambulance Communication Center
- "Dispatch"
- Operated by the MOH-EHS
- Uses DPCI II
  - Dispatch Priority Card Index system
- MOH proprietary software
  - Controversial since most (including Toronto) use MPDS for which there is some evidence...
    - Medical Priority Dispatch System



#### • OBHAG

- Ontario Base Hospital Advisory Committee
- Formed of the Base Hospital Program Directors
- Similar to the medical side MAC yet deals with policy and negotiates with MOH and MAC with an administrative view point
- NREMT
  - National Registry of EMT
    - US based private company that has created adaptive testing
    - Many/most paramedics are evaluated by this in the US in an ongoing basis to maintain certification
    - May be brought to Ontario as part of competency/recert assessment/ return to practice evaluations



## **Opportunities for involvement..**

- Base Hospital Rounds
- Ride outs
- Research
- Teaching
  - Recertification Day
  - Observerships
  - Case by case



## **Discussion?**



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