



# MEDICAL CONTROL DIRECTIVE

## 2022-05

**DATE:** March 2, 2022

**TO:** Pinellas County EMS Agencies  
Pinellas County Emergency Communications  
Pinellas County Certified EMTs and Paramedics  
Pinellas County Certified Advanced Practice Paramedics, Nurses  
Pinellas County Online Medical Control Physicians  
Pinellas County Ambulance Billing and Financial Services  
ED Nurse Managers

**FROM:** Dr. Angus Jameson, EMS Medical Director

**RE:** Fentanyl Shortage Mitigation / Adding IV Acetaminophen and Ketorolac

**Effective Date:** 0800 hrs. March 2, 2022 

### Background:

PCEMS has been experiencing a severe and prolonged shortage of fentanyl. Many other alternative opioid (i.e., morphine, hydromorphone, etc.) and non-opioid (i.e., sub-dissociative pain dose ketamine) are similarly not available.

To mitigate these ongoing medication shortages, the intravenous non-opioid analgesics acetaminophen and ketorolac are being added to the system. The use of these medications is supported by recent evidence-based guidelines for prehospital pain management. Impacted protocols include *M13-Pain Management*, *P15-Pediatric Pain Management*, and *CS19-Standardized Response Gear Inventory*

## Protocol Updates:

### 1. M13-Pain Management/P15-Pediatric Pain Management:

- a. Both adult and pediatric pain protocols (attached) are updated to emphasize a stepwise, escalating approach to pain management beginning with non-pharmaceutical interventions for mild acute pain, non-opioid analgesics (ketorolac or acetaminophen) for moderate acute pain, and opioid based treatment for severe acute pain.
- b. *Ketorolac is not authorized for pediatric patients.***
- c. PCEMS Certified Paramedics must ensure they are familiar with the multiple contraindications for ketorolac and acetaminophen.

### 2. CS19-Standardized Response Gear Inventory:

- a. CS19 is updated to reflect addition of these two medications to the response gear.

## Deployment and Handling:

1. Ketorolac and acetaminophen will be deployed as available and do not require handling as a Controlled Substance.
2. Remaining and any additional stock of fentanyl received will be deployed to maximize availability to patients.
3. ALS Units may stay in-service with reduced par levels and/or no fentanyl on board.
4. ***Consult OLMC for guidance if need for facilitated intubation arises and inadequate fentanyl on scene.***

## Associated In-service Training Assignment:

1. A short in-service training covering protocol updates (pharmacology, indications/contraindications, dosing/administration, and storage will be assigned via the Target Solutions platform.
2. All personnel are required to complete this training prior to administering ketorolac or acetaminophen and within 14 days of the assignment.
3. Failure to complete this training by the deadline may result in Clinical Restriction.

## Attachments:

M13-Pain Management

P15-Pediatric Pain Management

CS19-Standardized Response Gear Inventory

F30-Acetaminophen

F31-Ketorolac

# M13 ACUTE PAIN MANAGEMENT

<b>ADULT ONLY</b> (Peds. Ref. P15)	<b>GOALS OF CARE</b>
	Provide reasonable and safe pain management

## BLS

- Obtain baseline and repeat vital signs including pain scores (may use the Wong-Baker Faces scale for patients unable to provide a number) (Ref. CT18)
- For **MILD ACUTE PAIN** (pain score 1-3) implement BLS Pain Control Measures:
  - Allow patient to assume position of comfort, unless spinal precautions or splinting is required (Ref. CP15, CT11)
  - Treat specific injuries as needed with splinting/immobilization/cold pack (Ref. T1)
- Refer to appropriate protocol for underlying cause

## ALS

- Establish vascular access
- Monitor EtCO<sub>2</sub> and SpO<sub>2</sub>
- For **MODERATE ACUTE PAIN** (Pain Scale 4-6):
  - Ensure Mild Acute Pain measures are implemented and, if available and not contraindicated, administer one non-opioid pain medication as follows:

### Option A - KETOROLAC:

- If no active or recent bleeding risk (see PEARLS), renal disease, suspected ACS/active cardiac disease, pregnant or nursing mothers, recent NSAID use (less than 8 hrs.), or allergy, give ketorolac:
  - 15 mg intravenous or intramuscular *once*
  - **Do not re-dose ketorolac**

*OR*

### Option B - ACETAMINOPHEN:

- If contraindication to ketorolac present or ketorolac not available, and no history of liver disease (see PEARLS), recent (less than 6 hrs.) acetaminophen, concern for acetaminophen overdose, or allergy, give acetaminophen:
  - Patient weight greater than 50 kg:
    - 1g intravenous infusion over 15 minutes *once*
  - Patient weight less than 50 kg:
    - 15 mg/kg intravenous infusion over 15 minutes *once*
  - **Do not re-dose acetaminophen**

- For **SEVERE ACUTE PAIN** (Pain Scale 7-10):
  - Ensure Mild and Moderate Acute Pain measures are implemented and if necessary (pain score remains >7) administer fentanyl:
    - 1 mcg/kg intravenous or intraosseous to a maximum single dose of 100 mcg. May repeat every 10 minutes to a maximum combined total dose of 3 mcg/kg ***OR***
    - 1 mcg/kg intranasal to a maximum single dose of 100 mcg (max 1 mL per nare/side). May repeat every 5 minutes to a maximum combined total dose of 3 mcg/kg

<b>SAFETY ALERT</b>
<p><b><i>Respiratory depression and apnea can occur without warning!!!</i></b>  <i>This is more frequent in the geriatric population. Clinicians should consider reducing their initial dose of 0.5 mcg/kg – Maximum 50 mcg for elderly or frail patients.</i></p>

- If nauseated and/or vomiting because of an opioid administration, administer:
  - Ondansetron 4 mg slow intravenous push over at least two (2) minutes or intramuscular ***OR***
  - Ondansetron orally dissolving tablet 4 mg
  - May repeat once in 15 minutes as needed for continued nausea
- Refer to appropriate protocol for underlying cause

<b>OLMC</b>
<ul style="list-style-type: none"> <li>• Consult OLMC Physician for questions on pain medicine contraindications, additional dosing, and as needed.</li> </ul>

<b>PEARLS</b>
<ul style="list-style-type: none"> <li>• The objective of pain management is not the complete removal of pain, but rather to make the pain tolerable</li> <li>• <b><u>Ketorolac contraindications include, but are not limited to:</u></b> any active or recent bleeding risk (including any recent or expected surgery, trauma, pregnancy, breastfeeding, GI bleeding, stroke/ICH, etc.) as well as suspected ACS/known history of cardiac disease, and renal disease, recent NSAID (less than 8 hrs.) use and allergy.</li> <li>• <b><u>Acetaminophen contraindications include, but are not limited to:</u></b> known or suspected liver disease (including history of cirrhosis, ascites or need for paracentesis, liver disease associated GI bleeding, autoimmune or genetic liver disease, visible or reported jaundice or icterus, concern for hepatic encephalopathy), recent (less than 6 hrs.) acetaminophen use, suspected acetaminophen overdose, and allergy.</li> <li>• Due to limitation on volume of fluid able to be absorbed across the mucosa, the intranasal dose of fentanyl is not doubled as in other medications. To compensate for this, the dosing frequency is increased when using the intranasal route.</li> <li>• The co-administration of opioids and benzodiazepines should be avoided as it increases the risk of adverse events (e.g., respiratory depression)</li> </ul>

## QUALITY MEASURES

1. Complete set of vital signs with pain scale before and after each administration
2. EtCO2 documented after each administration
3. Waste documented if name of administering clinician matches crew on PCR
4. Single fentanyl dose does not exceed max or OLMC contact initiated
5. Total fentanyl dose does not exceed max or OLMC contact initiated
6. Benzodiazepines and opiates not combined

## REFERENCES

- [9.16.2021-Corrected-DRAFT-National-Model-EMS-Clinical-Guidelines-1.pdf \(nasmso.org\)](#)
- [MAD Nasal™ Intranasal Device | US | Teleflex](#)
- [Home - Wong-Baker FACES Foundation \(wongbakerfaces.org\)](#)
- [New Safety Measures Announced for Opioid Analgesics, Prescription Opioid Cough Products, and Benzodiazepines | FDA](#)
- Pinellas County EMS Medical Quality Management Plan
- Lindbeck, Shah, Braithwaite, et al (2022): Evidence-Based Guidelines for Prehospital Pain Management: Recommendations, Prehospital Emergency Care, DOI: 10.1080/10903127.2021.2018073 <https://doi.org/10.1080/10903127.2021.2018073>

# P15 PEDIATRIC ACUTE PAIN MANAGEMENT

PEDIATRIC ONLY	GOALS OF CARE
	Provide reasonable and safe pain management

## BLS

- Obtain baseline and repeat vital signs including pain scores (may use the Wong-Baker Faces scale for patients unable to give a number) (Ref. CT18)
- For **MILD ACUTE PAIN** (pain score 1-3) implement BLS Pain Control Measures:
  - Allow patient to assume position of comfort unless spinal precautions or splinting is required (Ref. CP15, CT11)
  - Treat specific injuries as needed with splinting/immobilization/cold pack (Ref. P17)
- Refer to appropriate protocol for underlying cause

## ALS

- Establish vascular access (Ref. CP21, CP25)
- Monitor EtCO2 and SpO2

**SAFETY ALERT**

Do not use Ketorolac in pediatric patients!

- For **MODERATE ACUTE PAIN** (Pain Scale 4-6): Ensure Mild Acute Pain measures are implemented and, if available, administer non-opioid pain medication as follows:

### ACETAMINOPHEN:

If no history of liver disease (see PEARLS), recent (less than 6 hrs.) acetaminophen, concern for acetaminophen overdose, or allergy give acetaminophen 15 mg/kg (max. 1g or 100 mL) intravenous infusion over 15 minutes once

▪**Do not re-dose acetaminophen**

Acetaminophen Weight Based Dosing					
Age	Ideal Weight (kg)	Vol (ml)	Route	Dose/Kg	Amount (mg)
PREMIE	2	3	IV	15 mg/kg	30
Newborn	4	6	IV	15 mg/kg	60
4 Month	6	9	IV	15 mg/kg	90
6 Month	8	12	IV	15 mg/kg	120
1 Year	10	15	IV	15 mg/kg	150
2 Years	12	18	IV	15 mg/kg	180
3 Years	15	22.5	IV	15 mg/kg	225
4 Years	17	25.5	IV	15 mg/kg	255
5 Years	20	30	IV	15 mg/kg	300
6 Years	22	33	IV	15 mg/kg	330
7 Years	25	37.5	IV	15 mg/kg	375
8 Years	27	40.5	IV	15 mg/kg	405
9 Years	30	45	IV	15 mg/kg	450
10 Years	35	52.5	IV	15 mg/kg	525
11 Years	40	60	IV	15 mg/kg	600
12 Years	50	75	IV	15 mg/kg	750
13 Years	60	90	IV	15 mg/kg	900

- For **SEVERE ACUTE PAIN** (Pain Scale 7-10) ensure Mild and Moderate Acute Pain measures are implemented and if necessary (pain score remains greater than 7) administer fentanyl:
  - Intravenous or intraosseous to a maximum single dose of 50 mcg fentanyl. May repeat every 10 minutes to a maximum combined total dose of 3 mcg/kg
  - Intranasal to a maximum single dose of 100 mcg fentanyl (max 1 mL per nare/side). May repeat every 5 minutes to a maximum combined total dose of 3 mcg/kg
- If nauseated and/or vomiting because of an opioid administration, administer:
  - Ondansetron slow intravenous push over at least two (2) minutes or intramuscular **OR**
  - Ondansetron orally dissolving tablet
  - May repeat once in 15 minutes as needed for continued nausea
- Refer to appropriate protocol for underlying cause

OLMC
<ul style="list-style-type: none"> <li>● Consult OLMC Physician for questions on pain medicine contraindications, additional dosing, and as needed.</li> </ul>

PEARLS
<ul style="list-style-type: none"> <li>● The objective of pain management is not the complete removal of pain, but rather to make the pain tolerable</li> <li>● <b>Acetaminophen contraindications include but are not limited to:</b> known or suspected liver disease (including history of cirrhosis, ascites or need for paracentesis, liver disease associated GI bleeding, autoimmune or genetic liver disease, visible or reported jaundice or icterus, concern for hepatic encephalopathy), recent (less than 6 hrs.) acetaminophen use, suspected acetaminophen overdose, and allergy.</li> <li>● Note that the maximum Fentanyl intranasal single dose is limited to 100 mcg or 1 mL per side and the dose is not doubled as in other intranasal medications due to limitations on the amount of fluid able to be absorbed across mucosa at one time. Frequency of dosing is increased to every 5 minutes to ensure adequate pain management when using the intranasal route. OLMC consult is still required for cumulative doses greater than 3 mcg/kg.</li> <li>● The co-administration of opioids and benzodiazepines should be avoided as it increases the risk of adverse events (e.g., respiratory depression)</li> </ul>

## QUALITY MEASURES

- Complete set of V/S with pain scale before and after each administration
- EtCO2 documented after each administration
- Waste documented if name of administering clinician matches crew on PCR
- Single Fentanyl dose does not exceed max or OLMC contact initiated
- Total Fentanyl dose does not exceed max or OLMC contact initiated
- Benzodiazepines and opiates not combined
- Any pediatric administration

## REFERENCES

- <https://www.nasemso.org/Projects/ModelEMSClinicalGuidelines/>
- Pinellas County EMS Medical Quality Management Plan
- <https://www.tandfonline.com/doi/full/10.1080/10903127.2021.2018073e.com>
- [http://editor.fresenius-kabi.us/admin/assets/PIs/Acetaminophen\\_FK\\_PI\\_451659B\\_Nov\\_2020.pdf](http://editor.fresenius-kabi.us/admin/assets/PIs/Acetaminophen_FK_PI_451659B_Nov_2020.pdf)
- Lindbeck, Shah, Braithwaite, et al (2022): Evidence-Based Guidelines for Prehospital Pain Management: Recommendations, Prehospital Emergency Care, DOI: 10.1080/10903127.2021.2018073 <https://doi.org/10.1080/10903127.2021.2018073>



# CS19.6 PCEMS ALS MEDICAL RESPONSE BAG

(This protocol reflects medical supplies, equipment and medications required in compliance with 64J-01 F.A.C.)

Date Completed:	mm/dd/yyyy
Unit ID #	
Completed By:	first & last name
EMS ID#	
Comments	

Bag					
Statpack G3 Perfusion - Blue					
Top Exterior Pocket - Center - Glucometer Kit					
Item Name	Pkg Type	Qty Rqd	Qty Present	Exp Date	Specific Notes
Glucometer		1			Bayer Contour
Glucometer test strips	Bottle	1			must be kept in original bottle and must retain bottom of external packaging for initial and monthly quality control testing info
Lancets		10			
1" Band-Aids		10			
Alcohol prep pads		10			
Top Exterior Pocket - Interior Left Net					
Oral glucose gel		2			
Glucagon (Glucagen)		1			INCIDENT NUMBER OF USE OR INCIDENT REPORT NECESSARY FOR REPLACEMENT
Top Exterior Pocket - Interior Right Net - Naloxone Kit					
Pelican 1015 Case		1			Storage case for Naloxone and MAD
Mucosal Atomization Device	MAD	2			
Naloxone 1 mg/mL - 2 mL	PFS	2			
Top Exterior Pocket - Lid Zippered Pocket					
Dextrose 10% in Water - 250 mL	Bag	1			
20 gtt (Macro) IV drip set		1			
Ketorolac Kit (3 - 30 mg/mL - 1 mL)	PFS	1			Requires use of clear hard plastic two-part case
Acetaminophen 10 mg/mL - 100 mL	Premixed Bag	2			
Left Exterior Pocket - Center					
IV Start Kit		3			
Left Exterior Pocket - Interior Left Net					
20 gtt (macro) IV drip set		1			
Tourniquet (loose) - IV start		3			
4" x 4" gauze, sterile		10			2 per pack
1" Silk Tape	Roll	1			roll - single patient use
1" Self-Adherent Tape	Roll	1			roll - single patient use - color may vary
Left Exterior Pocket - Interior Right Net					
16 g IV catheter		2			
18 g IV catheter		4			
20 g IV catheter		4			
22 g IV catheter		4			
4" Roll Gauze, sterile		1			

CS19.6 PCEMS ALS MEDICAL RESPONSE BAG - CS19.6

Left Exterior Pocket - Zipper Pocket					
Item Name	Pkg Type	Qty Rqd	Qty Present	Exp Date	Specific Notes
0.9% Sodium Chloride, 1000 mL	Bag	1			
0.9% Sodium Chloride, 10 mL	PFS	3			
Right Exterior Pocket - Center					
EZIO driver w/ trigger guard		1			replace if battery indicator light flashing per manufacturer instructions
Right Exterior Pocket - Interior Left Net					
20 gtt (macro) IV drip set		1			
45 mm EZIO needle set		2			INCIDENT NUMBER OF USE OR INCIDENT REPORT NECESSARY FOR REPLACEMENT
EZIO Stabilizer		1			
Right Exterior Pocket - Interior Right Net					
25 mm EZIO needle set		2			INCIDENT NUMBER OF USE OR INCIDENT REPORT NECESSARY FOR REPLACEMENT
EZIO Stabilizer		1			
Right Exterior Pocket - Zipper Pocket					
0.9% Sodium Chloride, 1000 mL		1			
Pressure infusion bag, 1000 mL		1			
0.9% Sodium Chloride, 10 mL	PFS	3			
Top Center Interior Pocket					
Controlled Substance Box		Reference separate inventory			See Page 3
Top Center Interior Pocket - Lid Zipper Pocket					
<i>RESERVED FOR FUTURE USE</i>		N/A			
Lower Center Interior Pocket - Upper Level					
Calcium Chloride 100 mg/mL - 10 mL	PFS	2			Placed in clear hard plastic two-part case for protection
Atropine Sulfate 0.1 mg/mL - 10 mL	PFS	2			Placed in clear hard plastic two-part case for protection
Sodium Bicarbonate 1 mEq/mL - 50 mL	PFS	2			<ul style="list-style-type: none"> <li>Placed in clear hard plastic two-part case for protection</li> <li>If prefilled syringe unavailable - reference Sodium Bicarb Kit on Page 3</li> </ul>
Epinephrine 0.1 mg/mL - 10 mL	PFS	6			<ul style="list-style-type: none"> <li>Placed in clear hard plastic two-part case for protection</li> <li>if unavailable reference Epinephrine 1 mg/mL - 1 mL vial kit</li> </ul>
Lidocaine 20 mg/mL - 5 mL	PFS	2			<ul style="list-style-type: none"> <li>Placed in clear hard plastic two-part case for protection</li> <li>if unavailable reference Lidocaine vial kit</li> </ul>
Adenosine Kit #1 *** (1 - 6 mg/2 mL & 3 Way Stopcock)	PFS	***			Placed in hard plastic two-part case for protection
Adenosine Kit #2 *** (2 - 6 mg/2 mL)	PFS	***			Placed in hard plastic two-part case for protection
Lower Center Interior Pocket - Lower Level					
Medication Kit					See separate inventory
Syringe Kit					See separate inventory
Infusion Kit					See separate inventory
Sodium Bicarb Kit (if prefilled unavailable)					See separate inventory

Item Name	Pkg Type	Qty Rqd	Qty Present	Exp Date	Specific Notes	
<b>Medication Kit</b>						
Flambeau 6747TE (T4007) Box		1				
Ondansetron 4 mg ODT	Unit Dose	2				
Ondansetron 2 mg/mL - 2 mL	PFS	2				
Diphenhydramine 50 mg/1 mL	PFS	2				
Epinephrine 1 mg/mL - 1 mL	Vial	2				
Amiodarone 50 mg/mL - 3 mL	Vial	3				
Methylprednisolone Sodium Succinate 125 mg/2 mL		2				
Nitroglycerin Aerosol Spray 0.4 mg/spray	Bottle	1				Replace when liquid level is below site hole
Administration Spoon (individually wrapped) - Chewable Aspirin		3				
Chewable Aspirin 81 mg		1 bottle				
Ipratropium Bromide 0.5 mg/2.5 mL	Unit Dose	2				
Albuterol Sulfate 2.5 mg/3 mL	Unit Dose	4				
Diltiazem 5 mg/mL - 5 mL	<i>Date deployed</i> <b>MAX OF 30 DAYS OUT OF REFRIGERATION</b>				1	
Norepinephrine 1 mg/mL - 4 mL					1	
<b>Syringe Kit</b>						
Flambeau 6747TE (T4007) Box					1	
1 mL Vanishpoint (safety syringe)					3	
3 mL Vanishpoint (safety syringe)					3	
3 mL syringe (luer lock)					2	
1 mL syringe (luer lock)					2	
Alcohol prep pad					10	
3-way stopcock					2	
18 g x 1.5" blunt fill needle with filter					2	
25g x 1" Hypodermic Needle					3	
<b>Infusion Kit</b>						
Flambeau 6734TE (T4000) Box					1	
Medication "ADD" label					4	
Stat2 Pumpette 60 gtt (micro) IV drip set with flow controller					1	
Dextrose 5% in Water - 100 mL					1	
Magnesium Sulfate 2 g/50 mL (premixed)					2	
<b>Sodium Bicarb Kit</b>						
Flambeau 6734TE (T4000) Box					1	
Sodium Bicarbonate 1 mEq/mL - 50 mL (vial)					2	
60 mL Luer Lock Syringe					2	
20 mL Luer Lock Syringe					2	
10 mL Luer Lock Syringe					2	
18g x 1.5" Blunt Fill Needle with Filter					2	
<b>Lower Center Interior Pocket - Lid Zipper Pocket</b>						
Trauma shears					1	
Individual sharps container					2	
Small biohazard waste bag					2	
Large biohazard waste bag					1	

CS19.6 - PCEMS ALS MEDICAL RESPONSE BAG - CS19.6

Controlled Substance Box			
Seahorse 120 Black with Cyberlock (CL-C5N)			
Controlled substance content shield (PCEMS)	1		
Etomidate 40 mg/20 mL	2		
Midazolam 5 mg/1 mL (vial or prefilled syringe)	4		
Fentanyl 50 mcg/mL - 1 mL or 2 mL vial or prefilled syringe <small>*** Max total amount per box - 400 mcg (any format combination)</small>	***		

# CS19.14 VEHICLE SUPPLEMENTAL EQUIPMENT & MEDICAL SUPPLIES

(This protocol reflects medical supplies, equipment and medications required in compliance with 64J-01 F.A.C.)

<b>Date Completed</b>	mm/dd/yyyy
<b>Unit ID #</b>	
<b>Completed By:</b>	first & last name
<b>EMS ID#</b>	
<b>Comments</b>	

## Equipment & Medical Supplies - Patient Care Action Area

Item Name	Ambulance		Fire			Qty Present	Exp Date
	ALS Amb.	BLS Amb.	ALS Transport Capable Rescue	ALS Medic Unit, Squad, Truck, Pumper or Engine	BLS Engine, Squad, Truck, Pumper, Utility		
Finger Pulse Oximeter, Portable (in Pelican 1010 case)	-	1	-	-	-		
Adult/Pediatric Sprague Rappaport Stethoscope	1	1	1	-	-		
Infant BP Cuff	1	1	1	-	-		
Child BP Cuff	1	1	1	-	-		
Adult BP Cuff	1	1	1	-	-		
Large Adult BP Cuff	1	1	1	-	-		
Glucometer, Bayer Contour	1	1	-	-	-		
Glucometer test strips - bottle (retain bottom of external packaging for quality control testing)	1	1	-	-	-		

## Equipment & Medical Supplies - Reserve

Item Name	Ambulance		Fire			Qty Present	Exp Date
	ALS Amb.	BLS Amb.	ALS Transport Capable Rescue	ALS Medic Unit, Squad, Truck, Pumper or Engine	BLS Engine, Squad, Truck, Pumper, Utility		
M6 oxygen cylinder (min. 1000 psi) - spare	1	1	1	1	-		
“D” oxygen cylinder (min. 1000 psi) - spare	1	1	1	1	-		
Onboard oxygen (min. “M” cylinder w/500 psi)	1	1	1	-	-		
Oxygen regulator - Onboard oxygen	1	1	1	-	-		
O2 flowmeter (onboard oxygen) with hose barb adapter - min. 2, 4, 6, 8, 10, 15, 20, 25L flow settings and DISS Port	2	2	2	-	-		
Adult nasal cannula	8	4	-	-	-		
Adult non-rebreather mask	4	2	-	-	-		

Equipment & Medical Supplies - Reserve (cont.)							
Item Name	Ambulance		Fire			Qty Present	Exp Date
	ALS Amb.	BLS Amb.	ALS Transport Capable Rescue	ALS Medic Unit, Squad, Truck, Pumper or Engine	BLS Engine, Squad, Truck, Pumper, Utility		
Adult aerosol mask	2	-	-	-	-		
Adult Trach Mask, Venturi with diluters	2	2	-	-	-		
Nebulizer Setup (Nebutech)	4	-	-	-	-		
Size 3 King LTS-D airway	1	-	-	-	-		
Size 4 King LTS-D airway	1	-	-	-	-		
Size 5 King LTS-D airway	1	-	-	-	-		
60 mL luer lock syringe	1	-	-	-	-		
Adult tube holder	1	-	-	-	-		
Adult BVM resuscitator with adult mask and filter	1	1	1	1	-		
Pediatric BVM resuscitator with child, infant and neonate masks and filter	1	1	1	1	-		
OPA 80mm, 90mm, 100mm, 110mm	1 ea.	1 ea.	-	-	-		
Adult/pediatric EtCO2 filterline set	1	-	1	1	-		
Adult (large) CPAP setup	1	-	1	1	-		
Child CPAP setup	1	-	-	-	-		
Superset with Mask Elbow Adapter	1	-	-	-	-		
Medium laryngoscope handle	1	-	-	-	-		
Suction canister with suction and vacuum tubing (disposable)	1	1	1	1	-		
Mac "3" laryngoscope blade	1	-	-	-	-		
Mac "4" laryngoscope blade	1	-	-	-	-		
Miller "4" laryngoscope blade	1	-	-	-	-		
6.0 ET tube (cuffed)	1	-	-	-	-		
7.0 ET tube (cuffed)	1	-	-	-	-		
7.5 ET tube (cuffed)	1	-	-	-	-		
8.0 ET tube (cuffed)	1	-	-	-	-		
8.5 ET tube (cuffed)	1	-	-	-	-		
Pocket Bougie	1	-	-	-	-		
Cold Pack	3	3	-	-	-		
Heat Pack	2	2	-	-	-		
1" Band-Aids	10	10	-	-	-		
2" Band-Aids	10	10	-	-	-		
1" Silk Tape	2	2	-	-	-		
3" Silk Tape	2	2	-	-	-		

**Equipment & Medical Supplies - Reserve (cont.)**

Item Name	Ambulance		Fire			Qty Present	Exp Date
	ALS Amb.	BLS Amb.	ALS Transport Capable Rescue	ALS Medic Unit, Squad, Truck, Pumper or Engine	BLS Engine, Squad, Truck, Pumper, Utility		
1" Self-adherent Tape	2	2	-	-	-		
4" Roll Gauze, Sterile	2	2	-	-	-		
10" x 30" Trauma Dressing	2	2	-	-	-		
Moldable padded aluminum splint	2	2	2	2	-		
C-collar, AMBU Perfit Ace	2	2	2	2	-		
C-collar, AMBU Mini Perfit Ace	2	2	2	2	-		
20 gtt (macro) IV drip set	7	-	-	-	-		
IV Start Kit	8	-	-	-	-		
16 g IV catheter	2	-	-	-	-		
18 g IV catheter	6	-	-	-	-		
20 g IV catheter	8	-	-	-	-		
22 g IV catheter	4	-	-	-	-		
Stat2 Pumpette 60 gtt (micro) IV drip set with flow controller	1	-	1	-	-		
1 mL Vanishpoint (safety syringe)	3	-	-	-	-		
3 mL Vanishpoint (safety syringe)	3	-	-	-	-		
20 mL syringe (luer-lock)	2	-	-	-	-		
10 mL syringe (luer-lock)	2	-	-	-	-		
3 mL syringe (luer-lock)	2	-	-	-	-		
1 mL syringe (luer-lock)	2	-	-	-	-		
3-way stopcocks	2	-	-	-	-		
18 g x 1.5" blunt fill needle with filter	3	-	-	-	-		
25g x 1" Hypodermic Needle	3	-	-	-	-		
Naloxone 2 mg/2 mL prefilled	2	-	-	-	-		
Mucosal atomization device (MAD)	2	-	-	-	-		
Ketorolac Kit (3 - 30 mg/mL - 1 mL)	1	-	-	-	-		
Acetaminophen 10 mg/mL - 100 mL	2	-	-	-	-		
Dextrose 10% in Water 250 mL	2	-	-	-	-		
0.9% Sodium Chloride, 1000 mL	7	-	-	-	-		
0.9% Sodium Chloride, 10 mL prefilled syringe	6	-	-	-	-		
Sodium Bicarbonate 1 mEq/mL 50 mL prefilled syringe or vial	2	-	-	-	-		

Equipment & Medical Supplies - Reserve (cont.)							
Item Name	Ambulance		Fire			Qty Present	Exp Date
	ALS Amb.	BLS Amb.	ALS Transport Capable Rescue	ALS Medic Unit, Squad, Truck, Pumper or Engine	BLS Engine, Squad, Truck, Pumper, Utility		
Epinephrine 0.1 mg/mL 10 mL prefilled syringe <b>OR</b> Epinephrine 1 mg/mL - 1 mL vial <b>KIT</b>	5	-	-	-	-		
Ondansetron 4 mg ODT (unit dose)	2	-	-	-	-		
Ondansetron 4 mg/2 mL (prefilled syringe)	2	-	-	-	-		
Diphenhydramine 50 mg/mL - 1 mL prefilled syringe or vial	2	-	-	-	-		
Epinephrine 1 mg/mL - 1 mL vial	2	-	-	-	-		
Adenosine 3 mg/mL - 2 mL prefilled syringe or vial	3	-	-	-	-		
Methylprednisolone Sodium Succinate 125 mg/2 mL	1	-	-	-	-		
Nitroglycerin Aerosol Spray 0.4 mg/spray	1 btl.	-	-	-	-		
Baby Aspirin 81 mg (chewable tablet - unit dose)	1 btl.	-	-	-	-		
Administration Spoon - Aspirin	6						
Ipratropium Bromide 0.5 mg/2.5 mL (unit dose)	2	-	-	-	-		
Albuterol Sulfate 2.5 mg/3 mL (unit dose)	4	-	-	-	-		
Diltiazem 25 mg/5 mL	1	-	-	-	-		
Norepinephrine 1 mg/1 mL, 4 mL vial	1	-	-	-	-		
Pelican 1015 Case	1	-	-	-	-		
ECG monitoring electrodes - (50 total electrodes) - Packaging Varies*	*	-	-	-	-		
Alcohol prep pads	10	10	-	-	-		
Blood specimen draw kit	2	-	2	2	-		
OB birthing kit	1	1	1	1	-		
Head Immobilizer	2	1	1	1	-		
Large patient mover	2	2	1	1	-		
Disposable restraints (pairs)	2	2	2	2	-		
Poly style limb restraints (wrist and ankle) - <b>reusable</b>	2 pr.	-	2 pr.	-	-		
Poly style limb restraint belts (wrist and ankle) - <b>reusable</b>	2 pr.	-	2 pr.	-	-		
Poly style limb restraint protective liners (wrist and ankle) - <b>disposable</b>	5	-	5	-	-		
Triage tags - FL Version - Rev. 5/12 (50 tags/pack)	1 pk	1 pk	1 pk	1 pk	-		



Equipment & Medical Supplies - Reserve (cont.)							
Item Name	Ambulance		Fire			Qty Present	Exp Date
	ALS Amb.	BLS Amb.	ALS Transport Capable Rescue	ALS Medic Unit, Squad, Truck, Pumper or Engine	BLS Engine, Squad, Truck, Pumper, Utility		
Triage ribbon dispenser system (complete with tape - green, red, yellow, black, magenta) <b>(Fire ONLY!!!)</b>	-	-	2	2	-		
Tamper Evident Security Bags	5	5	-	-	-		
Patient Belonging Bags	5	5	-	-	-		
Bed pan	2	2	2	-	-		
Urinal	2	2	2	-	-		
Infectious linen bags <b>(YELLOW)</b>	3	3	3	3	-		
Small Biohazard Waste Plastic Bag <b>(RED)</b>	4	4	-	-	-		
Large Biohazard Waste Plastic Bag <b>(RED)</b>	4	4	-	-	-		
Biohazard Waste Bag Impervious Container	1	1	1	-	-		
Individual Single Use Sharps Container	2	2	3	3	-		
Sharps disposal container (vehicle)	1	1	1	1	-		
Hand Sanitizing Wipe	50	50	-	-	-		
Clorox hydrogen peroxide cleaner/disinfectant	1 btl	1 btl	1 btl	1 btl	-		
Alcohol, 4 oz bottle	2	2	-	-	-		
Tough wipe towels (box)	1	1	1	1	-		
Nitrile gloves (non-sterile) - appropriate size	Multiple Pairs						
Primary stretcher and 3 straps	1	1	1	-	-		
Stretcher sheets (fitted and flat)	10	10	5	-	-		
Pillow, disposable	2	2	2	-	-		
Pillowcase	10	10	5	-	-		
Blanket - Cot quilt <b>(Sunstar ONLY - for warmth)</b>	1	1	-	-	-		
Blanket - cotton for warmth (disposable)	4	4	4	4	-		
Blanket - yellow - patient rain cover (disposable)	2	2	2	2	-		
Pedi-mate pediatric restraint device	1	1	1	-	-		
Vacuum splint (complete)	1	1	1	1	-		
Long spine board with four straps	2	1	1	1	-		
Scoop Stretcher	1	1	1	-	-		
Stair Chair	1	1	-	-	-		
Patient Slider	2	1	-	-	-		
Sager splint	1	1	1	1	-		
Child car seat	1	-	1	-	-		

# F30 ACETAMINOPHEN

<b>Trade Name</b>	Tylenol, Paracetamol	
<b>Class(es)</b>	Analgesic	
<b>Action(s)</b>	Pain control mechanism is not fully understood but thought to be due to activation of inhibitory serotonergic pathways in the CNS; Fever reduction from inhibition of hypothalamic heat-regulating center	
<b>Indication(s)</b>	Reduction of pain	
<b>Contraindication(s)</b>	Known or suspected liver disease (including history of cirrhosis, ascites or need for paracentesis, liver disease associated GI bleeding, autoimmune or genetic liver disease, visible or reported jaundice or icterus, concern for hepatic encephalopathy), recent (less than 6 hrs.) acetaminophen use, suspected acetaminophen overdose, and allergy	
<b>Precaution(s)</b>	Acetaminophen is often combined in other over the counter medications (cold/flu meds, combo headache treatments) and can lead to accidental overdose.	
<b>Pharmacokinetics</b>	<b>Onset:</b> 5-10 minutes	<b>Duration:</b> 4-6 hours
<b>Routes of Administration</b>	IV	
<b>Technique for Administration</b>	Give undiluted	
<b>PEARLS</b>	Give as an infusion over 15 minutes	
<b>Y-Site Compatibility</b>	Multiple interactions, do not administer with other medications through Y site	
<b>Interactions</b>	Alcohol	
<b>Reference</b>	Hanifah, Suci. (2019). Compatibility of Acetaminophen with Common Medication in Critical Care during Simulated Y-Site Injection.	

**F30 – ACETAMINOPHEN – F30**

# F31 KETOROLAC

<b>Trade Name</b>	Toradol	
<b>Class(es)</b>	Analgesic	
<b>Action(s)</b>	Non-steroidal anti-inflammatory drug; inhibits cyclooxygenase enzyme leading to decreased prostaglandin production	
<b>Indication(s)</b>	Reduction of Pain	
<b>Contraindication(s)</b>	Active or recent bleeding risk (including any recent or expected surgery, trauma, pregnancy, breastfeeding, GI bleeding, stroke/ICH, etc.) as well as cardiac and renal disease, recent NSAID (less than 8 hrs.) use and allergy	
<b>Precaution(s)</b>	Black box warning - platelet inhibition; possible CAD risk, gastric ulcer/GI bleed with prolonged use	
<b>Pharmacokinetics</b>	<b>Onset:</b> 1-2 min	<b>Duration:</b> 4-6 hours
<b>Routes of Administration</b>	IV or IM	
<b>Technique for Administration</b>	Give undiluted	
<b>PEARLS</b>	Give as slow IV push dose or IM	
<b>Y-Site Compatibility</b>	N/A	
<b>Interactions</b>	Aspirin, blood thinners	
<b>Reference</b>	Mahmoodi AN, Kim PY. Ketorolac. [Updated 2021 Jul 26]. In: StatPearls [Internet]. 2022 Jan-. Available from: <a href="https://www.ncbi.nlm.nih.gov/books/NBK545172/">https://www.ncbi.nlm.nih.gov/books/NBK545172/</a>	

**F31 – KETOROLAC – F31**