



MARTIN COUNTY FIRE RESCUE

PEDIATRIC QUALITY IMPROVEMENT PLAN

Purpose: This policy outlines the framework for a comprehensive Quality Improvement (QI) plan within Martin County Fire Rescue (MCFR). This plan aims to continuously enhance the quality of prehospital care, focusing on advanced Pediatric procedures, Pediatric cardiac and respiratory arrest, and attention to special needs Pediatric patients within the community.

Goals and Objectives

- **Improve Pediatric Patient Outcomes:** Continuously enhance care quality through advancements in pediatric medical technology and strict adherence to pediatric-specific protocols.
- **Enhance Pediatric Clinical Skills:** Provide ongoing training and education, with a focus on pediatric assessment, advanced airway management, and resuscitation techniques.
- **Ensure Pediatric Protocol Compliance:** Monitor adherence to pediatric treatment guidelines, identify areas for improvement, and implement corrective actions to maintain high standards of care.
- **Optimize Pediatric Resource Utilization:** Ensure the efficient and effective use of pediatric-specific equipment, medications, and resources to deliver the highest quality prehospital care for children.

COMPONENTS OF THE QUALITY IMPROVEMENT PLAN

Review and Analysis

QA Meetings	<ul style="list-style-type: none">● EMS Supervisor Meetings are conducted weekly to address any overall issues throughout the department.
Peer Review	<ul style="list-style-type: none">● Medical Peer Review is conducted on a quarterly basis to identify any concerns happening in the field. These meetings are open forum for the department to attend.● EMS Council Advisory meetings provide a platform to discuss challenges in the local medical field. MCFR personnel hold a seat on the council to foster collaboration and maintain strong relationships with neighboring hospitals.
Deviation Analysis	<ul style="list-style-type: none">● EMS Quality Assurance Review is completed by our EMS Supervisors when protocol deviations occur in the field.● These reports are reviewed by the EMS Bureau and the Medical Director to identify necessary course corrections or retraining options aimed at reducing recurring errors.

Improvement Strategies

Continuing Education	<ul style="list-style-type: none">● Annual Pediatric Training is conducted through the department.● Pediatric Manikins are utilized to simulate pediatric medical and trauma scenarios.
Protocol Updates	<ul style="list-style-type: none">● Protocols are updated based on Quality Assurance, Medical Direction, changes within the medical community, and Peer Review.● Real Time Protocol updates are completed via the One Dose app, and all electronic devices.
Equipment Resource Management	<ul style="list-style-type: none">● MCFR Logistics manages equipment through Operative IQ software, updating it based on medical equipment availability.● Research and testing of new pediatric response equipment are conducted based on findings from Peer Reviews and EMS Council Advisory discussions.

Performance Indicators

Adherence to Protocols	<ul style="list-style-type: none">● Measure compliance with established Protocols and Operational Standards for varies medical conditions and procedures.● Through the One Dose App, medical personnel have instant access to medical protocols, enhancing efficiency, ensuring consistency, and reducing human error.
Medication Administration	<ul style="list-style-type: none">● Monitor the accuracy of medication dosages in pediatric patients using the Handtevy System via One Dose app, Operative IQ, and ImageTrend.
Procedure Outcomes	<ul style="list-style-type: none">● Track patient outcomes, including mortality rates, morbidity rates, and patient survival rates via Biospatial integrated from our PCR reports.● strong relationship with the local hospital and continuous engagement with our Medical Director.
Documentation Accuracy	<ul style="list-style-type: none">● PCR reports are reviewed by EMS Lieutenants and Captains to ensure accuracy● QA checklist is utilized to ensure a systematic approach is followed by all EMS Supervisors to maintain documentation accuracy.

Data Collection and Monitoring

Prehospital Care Reports (PCRs)	<ul style="list-style-type: none"> ● All PCRs will be thoroughly reviewed for accuracy, completeness, and adherence to protocols. ● ImageTrend records and stores all PCR's for effective tracking, and data collection. ● State submissions use Biospatial to collect and analyze PCR data for regional trends evaluated throughout the State.
Call Type Location Disposition	<ul style="list-style-type: none"> ● Verify the correctness of disposition and location type for each call. ● Mobile CAD integrates with ImageTrend with additional notes provide by the residence. ● Jupiter Medical Center for pediatric patients and Pediatric trauma patients should be transported to St. Mary's Hospital.
CAD Response Information	<ul style="list-style-type: none"> ● Ensure accurate destination selection, hospital capability considerations, transport mode, patient movement details, and timely hospital activations. ● Mileage is automatically calculated to determine the closest hospitals.
QA Checklist	<ul style="list-style-type: none"> ● The QA checklist will be utilized as the primary tool for evaluating PCRs and identifying areas for improvement. ● The QA checklist develops a systematic approach to review PCR's and reduce inconsistencies. ● EMS Quality Assurance Reports are completed when quality improvement is recognized within personnel.
(EtCO₂) Monitoring	<ul style="list-style-type: none"> ● Utilize EtCO₂ monitoring for ventilatory assistance, respiratory distress, suspected inhalation injuries, obtunded patients, shock, pain management, and pediatric patients receiving pain medication.
Pulse CO-Oximetry (SpCO)	<ul style="list-style-type: none"> ● Pediatric SpCO are utilized for rapid patient assessment of heart rate and saturation rate. ● Utilize SpCO for known or suspected carbon monoxide exposure, smoke inhalation, and during rehab operations for firefighters.
ECG Monitoring	<ul style="list-style-type: none"> ● ECG monitoring is a minimum standard of care for all patients receiving ALS-level care. ● Zoll Monitor has the capabilities to identify and manage pediatric arrhythmias. ● Zoll Monitors comes equipped with Pediatric pads with adjustable joule settings.
Patient Outcomes	<ul style="list-style-type: none"> ● The EMS advisory Council meetings allowed MCFR to establish relationships with local hospitals, enabling EMS Supervisors and LifeStar personnel to follow up on patient outcomes as part of ongoing quality improvement. ● Training is then developed based on specific calls, guided by patient outcome data to enhance clinical performance and care quality.

PEDIATRIC QUALITY ASSURANCE FLOW CHART

**PEDIATRIC
PRIORITY
TRANSPORT**

**EMS CAPTAIN
QA REPORT
BEFORE THE
END OF SHIFT**

**PATIENT
TREATED WITHIN
PROTOCOL
YES/NO**

**FOLLOW UP
WITH
DESTINATION
HOSPITAL FOR
DISPOSITION**

**EMAIL FOLLOW UP
WITH
EMS BUREAU**

THE EMS CAPTAIN WILL QA ALL PEDIATRIC TRANSPORTS, REVIEWING THE REPORT FOR QUALITY OF CARE, FOLLOWING UP WITH THE ED, AND ASSESSING TREATMENT AND PATIENT OUTCOME. FINDINGS WILL BE EMAILED TO THE EMS BUREAU.