

Introduction

Mission: Inter-facility transport (IFT) is unique in that these patients requiring transport are already in a medical environment and transport inherently creates a risk of reducing the level of care during transport. The mission of these guidelines is provide guidance to downstate regional EMS agencies regarding best practices for providing an optimal care during inter-facility transport. The goal is to establish a minimum standard across the region.

Definition

IFT is defined as transport from one acute hospital to another. There is sometime confusion over whether certain locations are considered an acute hospital. An acute hospital can be defined at numerous levels but a few considerations include:

- In NYS, the facility is considered an article 28 facility.
- EMTALA applies to the facility; The facility has a dedicated emergency department and contracts with CMS.

These are guidelines

IFT is inherently highly variable and for many recommendations included here there are potential reasonable exceptions. However, exception should not be the norm and decisions to vary from an IFT agency's existing processes should be done with the direct oversight of both clinical and operational leadership.

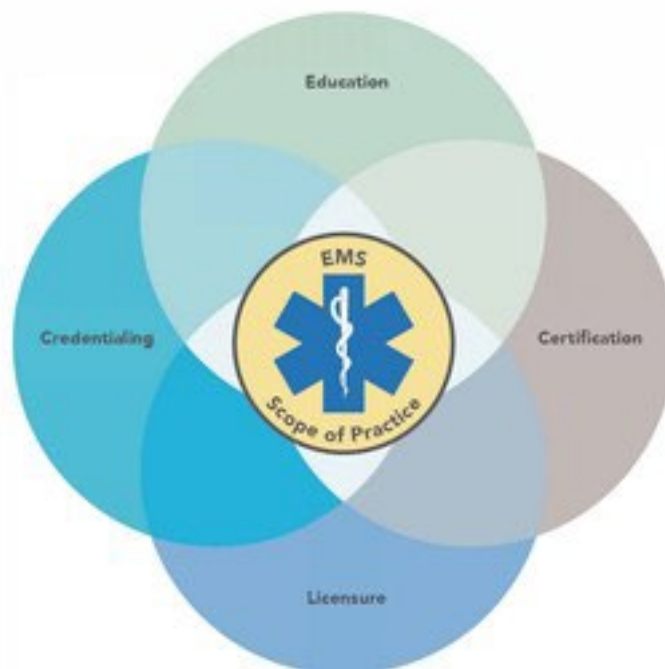
Section 1: Scope of Practice & Transport Teams

Scope for IFT Providers

The National EMS Scope of Practice Model is a useful tool to conceptualize scope of practice during interfacility transport (IFT). In this model, a paramedic must be appropriately trained, credentialed, certified and licensed to provide specific skills during IFT. Many agencies choose to tier their paramedics to clearly define what is in scope. The two most common tiers are:

Advanced Inter-facility Medic: Can perform all ALS skills and some additional skills and is specifically trained to provide IFT. The additional skills are agency defined but typically include the use of infusion pumps, ventilators and non-invasive ventilation.

Critical Care Medic: Can provide all IFT skills that do not require a team. This typically includes Intra-Aortic Balloon Pump, Impella, and invasive hemodynamic monitoring (arterial lines, etc..)



STANDARD 1.0 Defined Scope of Practice

Part 1

Agencies providing IFT should have defined scope of practice models that transparently define which skills are within scope by the type of provider. Paramedics should never be asked to perform skills that are out of their scope of practice.

Paramedics must be trained and credentialed in the respective agency to utilize those skills. See appendix A for an example of a Scope of Practice Document.

Part 2

Scope of practice models should include the most common skills provided during IFT, including skills such as:

- Mechanical ventilation
- Non-Invasive ventilation
- Maintenance and titration of infusions

STANDARD 1.1 Team Composition for IFT Assignments

Agencies providing IFT respond to a variety of missions and clinical scenarios. Agencies have a variety of options for deciding the appropriate team composition for specific scenarios. These include:

- i. Advanced IFT Paramedics
- ii. Critical Care Paramedics
- iii. Nurses
- iv. Respiratory therapists
- v. Perfusionists
- vi. A physician, physician assistant, or nurse practitioner (residents should not be considered part of a transport team but can participate in inter-facility transport).

STANDARD 1.2 Determining team composition

Part 1

EMS agencies providing IFT should have a standardized transparent rapid process for determining team composition. These processes should be reviewed on annual basis. Team composition should not be determined by the sending physician, but by the needs of the patient.

Part 2

It is recommended that common high complexity situations be included in processes for determining team composition. Examples of these situations include:

- i. Patients on ECMO (VA and VV)
- ii. Patients on other forms of circulatory support including Impella and Intra-Aortic Balloon Pumps
- iii. Patients receiving inhaled Nitric Oxide
- iv. Patients with a high likelihood of requiring CPR during transport
- v. Patients with a high degree of instability or complexity (agency defined)

STANDARD 1.3 Non-EMS team members

Part 1

Non-EMS team members should be responsible for only their component of the transport. Skills within scope of the transporting paramedic should be managed by the paramedic. i.e The perfusionist would be responsible for an ECMO device, but not the ventilator.

Part 2

Non-EMS team members who are responsible for skills outside of the paramedic scope should be trained and competent in the skill. Non-licensed providers (residents) should not responsible for delivering care during transport.

STANDARD 1.4 Exceptions

Deviation from team composition standards should be made by a physician who understands the abilities of the EMS team and can balance the operational and clinical transport considerations with the needs of the patient.

Section 2: Credentialing & Training/Education

STANDARD 2.1 Credentialing by ability

The agency should credential their field providers based on their clinical abilities. Each clinical skill that requires training should have competency testing and occur annually.

STANDARD 2.2 Certification

The use of a validated certification exam that tests the cognitive components of IFT is highly recommended but it does not replace the importance of education and evaluation of skills that crews may utilize.

STANDARD 2.3 Relevance of training

Education for IFT is distinct and should focus on the hospital environment. Techniques to focus IFT education on the hospital environment can include:

- Clinical rotations
- High fidelity simulation
- Field supervision
- Training on interaction with hospital staff (nurses and physicians)

STANDARD 2.4 Equipment Training

Part 1

Providers of IFT should be trained to use all equipment that will expected to manage. Training should take into account common variations that they may encounter.

Part 2

Competency testing should take place on the equipment that crews may occur in the field and take into account variations that may occur in clinical practice.

STANDARD 2.5 Medication Training

Part 1

Providers of IFT should be educated on all medications that they are expected to manage. Training should take into account common variations that they may encounter. There should be a focus on medmath, the five rights of medication administration, and medication cross-check.

Part 2

Competency testing should take place on medications / mixes that providers are expected to encounter.

STANDARD 2.6 Improving Training and Credentialing

There should be a mechanism for issues discovered in patient care can influence and improve upon the training and credentialing process.

Section 3: Clinical Protocols and Procedures

STANDARD 3.1 Clear Protocols

Part 1

Agencies engaged in interfacility transports should have clearly defined clinical protocols and procedures. Agencies may define their own protocols for the interfacility environment. These protocols should be developed by the agency medical director with provider input.

.Part 2

Protocols should be based on the best available scientific evidence and utilize the Level of Evidence hierarchy. Formal guidelines from relevant organizations such as ACLS, ATLS, ENLS, PALS, ABLIS etc.. are useful foundational elements.

Part 3

When developing agency specific protocols for clinical care, efforts should be made to make them systematic. Protocols should not vary based on send or receiving facilities.

STANDARD 3.2 Protocol Components

Protocols should include the following:

Part 1

A protocol delineating a standard approach to the patient. This protocol should be consistent with the local universal approach to patient care and include a standardized huddle and handoff applicable to interfacility transport, enabling the crew to assume patient care from the bedside and a safe handoff to the receiving staff.

Part 2

Procedures for when to resort to using emergency protocols if the patient condition warrants, including changes to transportation decision and destination.

Part 3

Agencies should have protocols for including, but not limited to:

1. Commonly encountered patient conditions:
 - a. STEMI/NSTEMI
 - b. Stroke
 - c. Aortic Dissection
 - d. Maternal Emergencies
 - e. Trauma
 - f. Behavioral Health
 - i. Policies and Procedures to ensure safety of crew:
 1. Screening
 2. Escalation
 3. Response
2. Clinical situations that are high frequency, high risk/low frequency, high likelihood of requiring intervention and/or specialty team, such as:
 - a. Newly placed tracheostomy
 - b. Resuscitated patients post cardiac arrest
 - c. Blood products
 - d. Medically necessary tubes, drains, etc.
 - e. Mechanically assisted / monitoring devices, such as ventilator, IV pump, invasive pressure monitoring, VAD, IABP, ECMO
3. Routine procedures above the ALS level

STANDARD 3.3 Training, Competency, and Protocols

Training and competencies must be conducted and documented for all agency defined protocols.

Section 4: Medical Direction

STANDARD 4.1 OLMC

Agencies engaged in interfacility transports should have clearly defined processes and policies for providing online medical control. These should include the following elements:

Part 1

Interfacility medical control should differentiate between the roles of the sending physician, the accepting physician, and credentialed medical control physicians.

Part 2

Interfacility medical control should differentiate between the two main settings where transport teams may make interventions; at the sending facility and during transport.

Part 3

Process and policies regarding transport orders (orders given by the sending physician) should ensure that transport teams understand which orders the transport team are allowed to follow and which require some form of escalation. Best practices include:

- Insuring that transport orders are clear
- Utilizing a pre-transport huddle
- Providing processes for transport teams to escalate if they are uncomfortable with orders

Part 4

It is not uncommon for there to be differences of opinion in clinical stability and appropriate treatment between different parties involved in interfacility transfer. There should be well defined processes to adjudicate these differences without undue stress on the transport team.

STANDARD 4.2 Offline Medical Direction

Agencies engaged in interfacility transports should have clearly defined processes and policies for providing offline medical direction.

Part 1

There should be clarity regarding physician oversight for offline medical direction, preferably led by an EMS physician.

Part 2

Cases requiring physician review should include a physician familiar with EMS and interfacility transport.

Part 3

Cases that are being discussed as part of a hospital review should include a physician familiar with EMS and interfacility transport to support the transport perspective.

Section 5: Interfacility Quality

STANDARD 5.1 Defined Quality Programs

Agencies engaged in interfacility transports should have a clearly defined program with specific measures and processes related to interfacility transport.

Part 1

A robust quality program should include processes for chart review, identification and review of sentinel events (including, but not limited to: medication errors, cardiac arrests during transport, and endotracheal tube displacements), complaints (sending or receiving facility, patient, etc.), deviations from medical standards, and quality measures (should include clinical, financial, safety, customer experience, employee engagement, and efficiency metrics).

Part 2

Standardized metrics and KPI, ideally that are benchmarked and known to have a clear clinical impact should be monitored and utilized to continuously improve quality. See Appendix B for suggestions.

STANDARD 5.2 Quality Programs Improving Care

A quality program should focus on identifying areas of improvement and implementing corrective action plans. When reviewing deviations from medical standards and sentinel events a root cause analysis should be performed. Programs such as Just Culture should be utilized to identify if the root cause is human error, at-risk behavior, reckless behavior, or a combination of more than one of these.

STANDARD 5.3 Feedback and Reporting of Events

Part 1

Feedback between all elements in the transfer system include ems quality & training, facilities, transfer centers and hospital quality is critical to quality improvement in a transfer system.

Part 2

Non-punitive reporting of near misses and other events is critical. Options for anonymous reporting are recommended.

Section 6: Clinical Operations

STANDARD 6.1 Changes in Status

Changes in status are an important high risk event in IFT. There are several practices to mitigate these risks:

Part 1

All agencies should have established policies on notifying a receiving facility should there be a change in patient status en-route via recorded line.

Part 2

Contact information for a receiving clinical decision maker should preferably be obtained on call intake but may be obtained during pre-transport huddle. As part of the pre-transport huddle, anticipated changes in patient condition should be discussed (e.g. Blood pressure goals with medication titration RASS score and sedation titration)

Part 3

If the patient experiences a life-threatening change in status not addressed in the pre-transport huddle, the paramedic should be allowed utilize their own protocols. In the absence of these they should allowed to resort to emergency REMAC protocols.

Part 4

There should be a defined plan to contact an appropriate physician when needed.

STANDARD 6.2 Communication

Communication between the entity arranging the transfer (usually a transfer center), the ems agency providing the transport, and the field crew is critical to insure patient safety.

Part 1

The agency should have a standardized intake that is appropriate for IFT. Considerations include:

- a. Priority (e.g., Rescue, Asap, non-emergency etc.)
- b. Nature (e.g., Code Stroke, OB transfer, Sepsis)
- c. Patient demographics (including weight)
- d. Sending and receiving physician
- e. Specific pickup and drop-off locations
- f. Medications patient is on
- g. Airway status (e.g., Vent, NIPPV, High-flow)
- h. Any other special equipment (e.g. A-line, IABP, Impella, Arctic Sun, EVD)

Part 2

Relevant information obtained by the transfer center should be provided to the ems agency dispatch and should be given to the field providers who will be transporting the patient. There should be clear guidance to IFT providers on the documents required to accompany the patient. Common components include:

1. Patient demographics
2. HPI and reason for transport
3. Consent forms
4. Advanced directives
5. Patient history, home medications, allergies
6. Sending and receiving physician name and contact number.

Part 3

EMS agencies providing IFT should have a means to record and review recordings of clinically relevant communication. This includes:

1. Phone calls to the transfer center
2. Phone calls between the paramedic and medical control
3. Phone calls between the paramedics and hospital staff
4. All non-telephone communications (e.g. Push to talk, asynchronous secure chat)
5. Radio

STANDARD 6.3 Prioritization

Prioritization of transports, including lights and sirens, should follow a structured decision-making process.

Part 1

EMS agencies providing IFT should make efforts to reduce unnecessary lights and sirens. Lights and sirens use should be dictated only by clinical need of the patient.

Part 2

Prioritization of IFT should be based primarily on patient need.

Part 3

There should be processes in place to allow for upgrading and downgrading the response mode and the priority.

Part 4

If the IFT agency allows for diversion to other units or hospitals there should be established processes for decision-making and communication.

STANDARD 6.4 Transitioning to EMS

The time to safely transition the patient to EMS's care is a critical safety moment.

Part 1

The IFT agency should create processes to support optimization of the patient prior to and after IFT team arrival. This can include:

1. Providing a notification when EMS is 10 minutes out from pickup
2. Having the transporting team call the hospital prior to arrival to get report
3. Pre-mixing drips and reviewing the patients record prior to arrival

Part 2

Transport teams should avoid rushing unless there is a clear need for a procedure that the patient cannot receive at the sending hospital. There should be a structured bedside time process; see appendix 2 for an example.

Part 3

There should be processes in place for situations where the patient is not fully optimized to allow the transport to escalate.

Appendix A: Sample Scope of Practice Advanced Inter-facility Medic

Domain	Standing Order	Medical Control Options
Airway	MFI with direct or video laryngoscopy Maintenance of tracheostomy	Changes to ventilator settings during transport

	Maintenance of endotracheal intubated patient Maintenance of NIPPV	Maintenance of prone positioning
Medication	Maintenance of any infusion Titration of infusions as per protocol for AIF medic	Titration of infusions that are not standing order
Blood Products, maintenance	Allowed	
Blood Products, initiation	Allowed	
Indwelling devices	IV / IO Invasive hemodynamic lines that do not require monitoring during transport Chest tube Use of existing Central venous access NG tube to suction Urinary catheters	
Monitoring	Cardiac / Standard Waveform Capnography	
Cardiac Support	Transcutaneous Pacing	

CCT (includes all advanced skills)

Domain	Standing Order	Medical Control
Airway	Escalation of ventilatory support (increasing PEEP to max of 10, increasing FiO2, increasing RR for a target ETCO2) Maintenance of prone positioning High Flow Nasal O2	Any de-escalation of ventilatory support Escalation of PEEP to > 10
Medication	Titration of infusions as per protocol for CCT medic	
Indwelling devices	PA catheters	
Monitoring	CVP Arterial lines ICP monitor	
Cardiac Support	TVP IABP Impella	

APPENDIX B: Sample Quality Metrics

There are multiple resources with established quality metrics which agencies may choose to utilize. These include accreditation bodies such as CAAS and CAMTS as well as quality organizations such as NEMSQA and GAMUT.

Example Quality Metrics:

Rate of Transfusion Reactions

Rate of Cardiac Arrests During Interfacility Transport

Rate of Endotracheal Tube Displacement

Rate of NIPPV Patients Requiring Mechanical Ventilation During Transport

Response Time to Stat/Life Rescue (we should choose one term to utilize throughout document)

Scene Time for Stat/Life Rescue

Percentage of Interfacility Transports Utilizing Lights and Sirens to Sending Facility

Transport Team Time Out

Complete **prior** to transfer of patient from transport stretcher and assumption of care by hospital staff

