

**Saint Alphonsus Life Flight  
Medical Supervision Plan**

**October 2008**

**Approval**

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## **I. Initial Credentialing & Training of Flight Crew Members**

A. Flight status for newly hired Life Flight paramedics and nurses is conditional upon:

1. Successful completion of the Life Flight orientation program
2. For nurses, verification of Idaho and Oregon nursing licensure and Idaho EMT certification; for paramedics, verification of Idaho and Oregon paramedic certification
3. Verification of successful completion of ACLS, PALS and NRP

B. At the onset of Life Flight orientation, at least one preceptor is assigned to each new crew member.

C. The Life Flight orientation program consists of the following components which meet or exceed the applicable requirements of the Idaho EMS Critical Care Transport Guide. Orientation also incorporates the Guidelines for Air Medical Crew Education, as published by the Association for Air Medical Services, and complies with the initial training standards of the Commission on Accreditation of Medical Transport Systems (CAMTS).

1. Didactic: This phase of orientation consists of lectures and hands-on workshops and includes a review of Life Flight policy and procedure and Life Flight's standing orders.
2. Clinical rotations: Clinical rotations include written objectives for critical care, OB, pediatric ICU and OR (see Appendix A: Clinical Rotation Objective Guides). New crew members also benefit from an orientation to the ED and the Medical Access Center (a.k.a. Life Flight dispatch).
3. Procedure lab: The procedure lab includes stations for femoral line insertion, EZ-IO insertion, needle and surgical cricothyrotomy, pericardiocentesis, needle chest decompression and chest tube insertion. New crew members attend at least one procedure lab during orientation. A second procedure lab, if not already completed, is required within 6 months of successful credentialing.
4. Ride-alongs: Ride-alongs focus on equipment, operations, communications and aviation safety as well as patient care, trauma triage/leveling and patient destination decision-making. In the absence of actual flight requests, simulated flights may be utilized for orientation purposes. Whenever possible, the new crew member flies with an assigned preceptor. Each flight is critiqued verbally and in writing by the flight crew.

5. OR intubations: Flight nurses successfully intubate at least 24 OR patients. Paramedics successfully intubate at least 12 OR patients. Manikin intubations and viewing of "Airway Cam" videos are required prior to spending time in the OR.
  6. Preceptor checklist: The preceptor checklist (see Appendix B: Preceptor Checklist) documents training & proficiency in various aspects of air medical transport such as patient loading/unloading, radio communications, survival gear and patient care equipment (e.g., blood glucometer, transport ventilator).
  7. Air Medical Resource Management (AMRM) training: AMRM is intended to enhance the safety culture of Life Flight by promoting team cohesiveness and adaptation during change through management of all available resources.
  8. Case scenarios: Clinical competency is evaluated with a trauma and a medical case scenario. Case scenarios include selected equipment tasks and incorporate clinical competency performance criteria (see II.B. Continuing Education & Training).
- D. Orientation requirements (e.g., number of OR intubations, number of scene flights) may be customized based on individual experience and previous training.
- E. Successful completion of Life Flight orientation is determined by the Life Flight Medical Director in consultation with the new crew member, assigned preceptor and the Life Flight Clinical Manager.
- F. Flight status credentials are reviewed initially after six months and then annually.

## **II. Off-Line Medical Direction**

- A. Credentialing for Emergency Response: Flight nurses and paramedics who possess flight status are credentialed for emergency response as well as non-emergency response (see I. Initial Credentialing & Training of Flight Crew Members).

## B. Continuing Education & Training

1. The Life Flight continuing education and training program is intended to maintain clinical competency and meets or exceeds CAMTS standards for continuing education. Performance criteria for specific clinical areas including patient assessment, endotracheal intubation, management of pneumothorax, invasive hemodynamic monitoring, vaso-active medication infusions and ventilator management have been developed to guide education activities (see Appendix C: Clinical Competencies).
2. An Education Committee consisting of flight paramedics and flight nurses oversees the development and implementation of the continuing education & training program as well as the orientation program. The Clinical Manager leads the Education Committee, which meets monthly. The Life Flight Medical Director actively participates on the Education Committee.
3. Continuing education & training activities include:
  - a) Monthly chart review: This interactive session retrospectively focuses on examples of exemplary patient care as well as patient care that could be improved or managed differently. Discussion cases are flagged in advance by the Life Flight Medical Director and crew members.
  - b) Monthly lecture: A variety of topics are presented in this on-going lecture series. Physician subject matter experts are invited to present whenever possible.
  - c) Monthly education activity: This on-duty refresher tutorial is self-paced and focuses on devices and other aspects of patient care (e.g., Pedimate, initiation of an in-line nebulizer treatment). The activity changes every 1-2 months.
  - d) Case presentations: Flight crew members are responsible for formally presenting interesting cases once every 2 years. Alternatively, a crew member may present and critique a recently published journal article.
  - e) Clinical rotations: Clinical rotations include written objectives for critical care, OB, pediatric ICU and OR (see Appendix A: Clinical Rotation Objective Guides) and must be completed annually.
  - f) Procedure lab: The procedure lab includes stations for femoral line insertion, EZ-IO insertion, needle and surgical cricothyrotomy, pericardiocentesis, needle chest decompression and chest tube insertion. Credentialed crew members attend at least one procedure lab annually.

g) Endotracheal intubation: Flight paramedics must successfully intubate at least 6 patients annually. Flight nurses must successfully intubate at least 4 patients every 6 months. Successful intubations may be accomplished on-duty, in the OR or during other patient care activities (e.g., Ada County Paramedics).

h) ACLS, PALS and NRP: Crew members must maintain current certification in ACLS, PALS and NRP.

i) Advanced Trauma Life Support (ATLS) or Transport Nurse Advanced Trauma Course (TNATC): Crew members must attend or audit either ATLS or TNATC.

j) Hoops Day: This scenario-based activity focuses on patient assessment and critical decision-making. Patient scenarios are designed to evaluate applicable clinical competency performance criteria. Hoops Day is conducted annually with the active participation of the Life Flight Medical Director.

### C. Annual Evaluation & Re-Credentialing

1. Crew members are re-credentialed annually by the Life Flight Medical Director.

2. Crew member evaluation by the Life Flight Medical Director is effected by:

a) 100% retrospective chart review by the Life Flight Medical Director

b) Crew member participation at chart review

c) Crew member performance during procedure lab

d) Case-specific feedback from other patient care providers (e.g., SARMC Trauma Committee, emergency physicians, sending providers, ED staff)

e) Direct observation of patient care by the Life Flight Medical Director during Medical Director ride-alongs and during Hoops Day case scenarios

3. Re-credentialing is conditional on the following:

a) Attend at least 5 chart reviews annually

b) Attend at least 1 procedure lab annually (an ATLS or TNATC procedure lab satisfies this requirement)

c) Annual completion of the clinical rotations

- d) Successfully intubate the required number of patients annually (see II.B.3(g). Endotracheal Intubation)
- e) Case presentation at least every 2 years
- f) Current ACLS, PALS and NRP certification
- g) Successful completion of Hoops Day patient scenarios
- h) Approval of the Life Flight Medical Director

#### D. Performance Improvement and Quality Assurance

1. A Quality Assurance/Quality Improvement (QA/QI) Committee consisting of flight paramedics, flight nurses and Life Flight dispatch personnel oversees the performance improvement program. The Life Flight Medical Director leads the QA/QI Committee, which meets every other month. The QA/QI Committee interfaces with the Education Committee as needed, especially when a specific training need is identified.

2. QA/QI projects utilize aggregate data rather than focus on individual crew member performance. Finding “bad apples” is not the mission of the QA/QI Committee.

3. As a rule, the QA/QI Committee seeks out crew member input during the development of Life Flight treatment and documentation standards. On-duty crew members are also engaged in QA/QI data collection and chart audits whenever possible. QA/QI results and run charts are shared with crew members during Life Flight’s monthly staff meeting.

4. Current QA/QI projects include:

- a) Intubation documentation
- b) Intubation 1<sup>st</sup> attempt success rates
- c) Chemical paralysis
- d) Selective cervical spine immobilization
- e) On-scene trauma times
- f) O-neg packed RBC utilization for on-scene trauma
- g) Trauma leveling
- h) Blood administration and resuscitation with fluid
- i) Air medical utilization

## E. Life Flight Standing Orders (LFSO)

1. LFSO (see Appendix D: Life Flight Standing Orders) describe the medical actions and interventions that can be undertaken by Life Flight crew members prior to, or in the absence of, direct contact with on-line medical direction.
2. LFSO are intended to standardize patient care and to assure a minimum level of patient care services. However, it is understood that deviations from the SO may be justified on a patient-specific basis.
3. It is understood that Life Flight crew members may encounter clinical scenarios that are not specifically addressed in the LFSO. In such situations, Life Flight crew members are expected to render medical care using their best judgment and in accordance with their scope of practice and training. There may be occasions when Life Flight crew members must use their training and experience to respond to unique patient or field conditions in deciding which medications and/or doses to administer.
4. Interventions that require on-line medical direction prior to initiation are clearly designated in the LFSO. On-line medical direction may also be sought on a patient-specific basis as appropriate.
5. The Life Flight Medical Director reviews the LFSO at least every 2 years. Input and recommendations from physician specialists and sub-specialists is also requested during LFSO revisions.

## F. Equipment Authorized for Patient Care

1. Patient care equipment is utilized in accordance with manufacturers' guidelines.
2. Patient care equipment is recommended by an Equipment Committee consisting of crew members and the Life Flight Medical Director. Prior to making a recommendation, the Equipment Committee considers factors such as patient need, anticipated frequency of use, efficacy, reliability, cost, weight, size, Idaho EMS minimum equipment requirements and FAA regulations.
3. Authorized equipment as well as medications are checked on each aircraft on a regular basis utilizing a written checklist (see Appendix E: Aircraft Equipment Checklists).

## G. EMS Physician Commission (EMSPC) Optional Skills: Life Flight crew members are credentialed to perform rapid sequence intubation in accordance with EMSPC rules and requirements.

## H. Life Flight Crew Member Authorization to Provide Patient Care

1. Flight nurses and paramedics may provide patient care in accordance with their credentialing when responding to an air medical transport request as an on-duty Life Flight crew member.
2. Flight nurses and paramedics may provide patient care as a Good Samaritan in accordance with their credentialing when they discover a need for EMS while not on-duty.
  - a) As a Good Samaritan, a crew member provides patient care without expectation of remuneration.
  - b) The off-duty crew member should relinquish patient care to the local EMS system as soon as practical.
  - c) The off-duty crew member will accompany the patient to the hospital when the crew member initiates patient care that is beyond the scope of practice of the local EMS providers.
  - d) If the crew member is traveling to or from a remote Life Flight base of operations and discovers a need for EMS, the crew member will be immediately considered “on-duty” and will receive appropriate wages for his or her time.
3. A Labor & Delivery nurse (a.k.a. OB nurse) shall be the primary patient caregiver during maternal interfacility transports.

## I. Criteria for Pre-Hospital Utilization of Air Medical Services, Level of Emergency Response & Cancellation

1. As an air medical EMS agency, Life Flight will respond to the pre-hospital arena when requested by a ground EMS agency or a public safety answering point (PSAP) in accordance with local policy and procedure. Requests by another type of agency (e.g., U.S. Forest Service, Idaho State Police) or bystanders shall be evaluated on an individual basis; any Life Flight response will be accompanied by simultaneous activation of the local EMS system.
2. The requesting ground EMS agency or PSAP may cancel Life Flight in accordance with local policy and procedure. Responses requested by another type of agency or bystander may not be cancelled until certified EMS personnel complete a patient assessment and cancel Life Flight in accordance with local policy and procedure.

3. Life Flight crew members may participate in the decision to request additional air medical resources in accordance with local policy and procedure prior to their arrival at the scene or after Life Flight crew members complete patient triage and assessment on scene.

4. In general, air transport should not be initiated when CPR is in progress (e.g., cardiac arrest, blunt trauma arrest). Air transport with CPR in progress may be justified for pediatric patients, hypothermia and other special situations at the discretion of Life Flight crew members.

#### J. Scene Management, Multiple or Mass Casualty Response, Patient Triage & Patient Destination Determination

1. As an air medical EMS agency, Life Flight usually responds to the pre-hospital arena when requested by a ground EMS agency or PSAP. The local EMS system is responsible for scene management in accordance with the local incident command system.

2. Upon arrival on scene, Life Flight crew members will receive a patient report from ground EMS personnel and perform a focused patient assessment to confirm the necessity of air medical transport.

3. In the event of multiple patients, Life Flight crew members may elect to ensure appropriate patient triage, especially when ground EMS personnel are certified at the EMT or Advanced EMT level or the scene is chaotic.

4. In the event of multiple critically-injured patients and the absence of ALS ground personnel, a Life Flight crew member may remain on-scene while the second crew member completes the patient transport. Prior to separation, crew members will consider factors such as local EMS resources, patient(s) condition, incoming weather and the ETE of additional ALS or air medical resources.

5. Patient destination will be determined in accordance with local policy & procedure or Life Flight Standing Orders (see Appendix D: Life Flight Standing Orders).

#### K. Disaster Response

1. In a declared disaster, scene management is determined by the local incident command system.

2. In a declared disaster, flight nurses and paramedics may provide patient care consistent with their Life Flight credentialing.

3. In a declared disaster, Life Flight crew members may accept medical supervision from physicians not previously identified or designated by the Life Flight EMS Medical Director for on-line medical direction. As such, crew members may deviate from Life Flight Standing Orders. However, crew members must not provide patient care outside their experience and training and outside the capabilities of available equipment.

#### L. Non-Transport Scenarios

1. Life Flight may consider non-transport by air in the following situations (see Appendix D: Life Flight Standing Orders):

- a) Pronouncement or presumption of death in the field
- b) DNR or POST order
- c) Patient refusal of care
- d) Combative or agitated patient (or potential for same)

2. Life Flight crew members may release a patient to ground EMS personnel when the care required or anticipated is within the scope of practice of the local ground EMS agency.

3. When ground ambulance is the most appropriate mode of transport, Life Flight crew members, Life Flight must accompany the patient when the care required or anticipated exceeds the scope of practice of the local ground EMS agency.

#### M. Medical Communication Guidelines

1. Medical communications are accomplished by radio, cell phone, land-line or satellite phone.

2. Proper radio procedure shall be followed at all times and all radio traffic shall be handled in a professional manner.

- a) Crew members will communicate using plain language. The use of ten-codes or other radio codes is discouraged.
- b) Radio transmissions are to be kept as brief as possible.
- c) All radio operations will conform to the rules of the Federal Communications Commission.

3. Life Flight crew members are responsible for providing the receiving facility with a patient report and ETA or ETE as soon as feasible. If direct communication with the receiving facility is not possible, this information can be relayed by Life Flight dispatch personnel.

4. Life Flight crew members and Life Flight dispatch personnel are responsible for providing the sending facility/requesting EMS agency with an ETA or ETE. Changes to the ETA/ETE are communicated to the sending facility/requesting EMS agency as soon as feasible.

## N. Patient Care Documentation

1. Life Flight crew members must document every patient encounter, including refusals of care, non-transport and releases to ground EMS personnel.

2. The Life Flight patient care record consists of a dictated record, EMS Pro record and Summary of Care.

a) In general, documentation in the patient care record includes a patient assessment and the indications and responses to procedures and other medical interventions performed.

b) The hand-written Summary of Care (see Appendix F: Summary of Care Form and Form Directive) is intended for the receiving facility and includes pertinent patient information.

c) Crew members dictate a patient care record after completion of the patient encounter. The dictated record includes the following elements:

- (1) Chief complaint or transfer diagnosis
- (2) History of present illness
- (3) Reason for air medical transport
- (4) Physical examination
- (5) Data/diagnostic test results
- (6) Pre-flight treatment
- (7) In-flight treatment
- (8) Post-flight treatment
- (9) Impression(s)

- d) Crew members complete EMS Pro after completion of the patient encounter. EMS Pro entries include medications, interventions, vital signs/GCS and impressions.

### **III. On-Line Medical Direction**

A. On-line medical direction (OLMD) may be accomplished by concurrent communication with the Life Flight Medical Director or the on-duty emergency physician at Saint Alphonsus Medical Center. Receiving physicians who have been trained and identified by Life Flight may also provide OLMD.

1. OLMD may be sought on a patient –specific basis as appropriate.
2. Interventions that require OLMD prior to initiation are clearly designated in Life Flight’s standing written orders.
3. Consultation with the receiving provider is encouraged to determine appropriate patient destination (e.g., over-triaged trauma patients).
4. Whenever feasible, OLMD communications are recorded for QA/QI purposes. Recordings are maintained in a confidential manner.
5. The Medical Director is responsible for developing an orientation program for emergency physicians who have been designated as providers of OLMD.

#### **B. OLMD by On-Scene Physicians**

1. Life Flight crew members may accept on-scene OLMD from the Life Flight Medical Director, Saint Alphonsus emergency physicians and the patient’s attending physician.
2. When any other physician on-scene offers to provide assistance and/or medical direction, Life Flight crew members will determine the physician’s identity and medical specialty. A physician on-scene may not provide assistance and/or medical direction unless the following conditions are met:
  - a) The physician’s medical specialty is pertinent to the patient’s medical condition.
  - b) The physician agrees to accompany the patient for the duration of treatment and transport to the hospital. Transport of the on-scene physician requires approval of the pilot.

c) Life Flight crew members agree to receive assistance and/or medical direction from the on-scene physician.

3. At no time will Life Flight crew members render care outside of their scope of practice and training at the direction of a physician on-scene.

#### **IV. EMS Training Programs**

A. The Life Flight Medical Director, in collaboration with the course medical director or course coordinator, defines standards of supervision and training for students of state-approved training programs, who have been placed with Life Flight for clinical practice and training.

B. These standards will be defined, identified and documented in writing and will be distributed to Life Flight crew members and students.

C. Current standards are documented in Appendix G: Supervision and Training Standards for EMS Students, which will be updated as necessary.

## V. **Appendix A: Clinical Rotation Objective Guides**

[Critical Care](#)

[OB](#)

[OR](#)

[PICU \(Pediatric Intensive Care\)](#)

## Saint Alphonsus Life Flight Critical Care Clinical Rotation Objectives Guide

2007-2009

### INSTRUCTIONS FOR SARMC:

1. Please verify that this is the most current version of the objectives guide.
2. You are required to participate in the critical care clinical rotation while on-duty, completing every objective every 12 months. Objectives may be completed over multiple days.
3. Be sure to complete the rotation prerequisites prior to spending time in the ICU/CCU/CVICU.
4. Bring your current objectives guide every time you spend time in a clinical venue. Your objectives guide should otherwise be kept in your "Clinical Excellence" 3-ring binder.
5. Ask your clinical preceptor(s) to print their name and initial the objectives guide.
6. Instruct your clinical preceptor(s) to attest to the successful completion of individual objectives by initialing and dating the appropriate objective(s). **THIS IS IMPORTANT!** Preceptors may also provide additional written comments in the space provided. Successful completion of an objective is not necessarily equivalent to competency.
7. Utilize respiratory therapy for objectives 1,2,3 and 13.
8. ***Be sure to note the number of hours you spend in the ICU, CCU and CVICU. Hours in each critical care unit should be recorded separately and totaled by date.***
9. Ask your clinical preceptor(s) to complete an evaluation form. You may need to make additional copies. You should also complete your own evaluation form.
10. Evaluation forms may be forwarded to the Life Flight Administrative Secretary (fax 367-6886).
11. Questions or concerns regarding the critical care clinical rotation should be directed to Dr. Kim.

# Saint Alphonsus Life Flight Critical Care Clinical Rotation Objectives Guide

2007-2009

## ROTATION PREREQUISITES:

Review the hospital policy and procedure for blood product administration (available on saintals.com for SARMC).

Self-directed reading and review of the following topics:

1. Psychosocial needs of the critical care patient and adverse effects of critical care hospitalization including pain, disorientation (ICU psychosis) and loss of sense of time
2. Standard precautions and transmission-based isolation (i.e., airborne, droplet and contact precautions)
3. Proper hand-washing technique and the prevention of nosocomial infections.
4. Determinants of cardiac output (heart rate, stroke volume, preload, afterload, contractility, Starlings law) and the hemodynamic relationships between blood pressure, cardiac output and systemic vascular resistance
5. Mixed venous oxyhemoglobin (SvO<sub>2</sub>)
6. CVP, Swan-Ganz and arterial pressure waveforms
7. ICP monitoring
8. Causes of abnormal pressure values, cardiac output and systemic vascular resistance measurements
9. Heart sounds
10. Presentation and pathophysiology of shock (i.e., septic, cardiogenic, hemorrhagic, etc.)
11. Oxygen transport, oxygen consumption and the oxyhemoglobin dissociation curve
12. Administration of blood products and complications
13. Indications, mechanism of action, complications, side effects and usual dosing of vaso-active medications commonly used in the critical care setting, including:
  - Dobutamine (Dobutrex)
  - Dopamine
  - Nitroglycerin
  - Nitroprusside (Nipride)
  - Norepinephrine (Levophed)
  - Vasopressin (Pitressin)
14. Physiology of respiration
15. Breath sounds
16. Modes of mechanical ventilation and CPAP
17. Hemodynamic effects of mechanical ventilation
18. Tension physiology
19. Interpretation of arterial blood gas, SvO<sub>2</sub> and end-tidal CO<sub>2</sub> measurements and other laboratory data including CBC, electrolytes, BUN/creatinine, coags and cardiac enzymes
20. Presentation and signs & symptoms of right ventricular, posterior, anterior, inferior and lateral wall myocardial infarctions
21. Transvenous, epicardial and transcutaneous pacemakers

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Critical Care Clinical Rotation Objectives Guide**

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Name \_\_\_\_\_

	Objective	Preceptor Initials	Date(s)	Preceptor Comments
1	Assess and discuss management of a patient with mechanical ventilation.			*Should be initialed by respiratory therapy.
2	Assess and discuss management of a patient with CPAP or BiPAP.			*Should be initialed by respiratory therapy.
3	Interpret arterial blood gas and end-tidal CO2 measurements and discuss appropriate ventilator settings.			*Should be initialed by respiratory therapy.
4	Demonstrate the ability to set-up and troubleshoot invasive hemodynamic monitoring apparatus and equipment.			
5	Assess and discuss management of a patient with invasive hemodynamic monitoring:			
	• CVP			
	• Swan-Ganz			*If no patients available, discuss with a preceptor.
• Arterial catheter				
6	Interpret invasive hemodynamic monitoring measurements and discuss recommended changes to patient care.			
7	Calculate medication infusion rates given patient weight and medication concentration.			
8	Assess and discuss management of a patient with a vaso-active or inotropic medication infusion.			

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Critical Care Clinical Rotation Objectives Guide**

Name \_\_\_\_\_

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	<b>Objective</b>	<b>Preceptor Initials</b>	<b>Date(s)</b>	<b>Preceptor Comments</b>
<b>9</b>	Demonstrate the ability to troubleshoot chest tubes and chest tube drainage systems.			
<b>10</b>	Assess and discuss management of a patient with a chest tube.			
<b>11</b>	Assess and discuss management of a patient with a transvenous, epicardial or transcutaneous pacemaker.			*If no patients available, discuss with a preceptor.
<b>12</b>	Discuss the administration of FFP, cryoprecipitate, platelets and packed RBCs, including indications and complications.			
<b>13</b>	Interpret the chest x-ray of an intubated patient. Identify the carina and endotracheal tube placement.			*Should be initialed by respiratory therapy.

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Date	Hospital	ICU Hours	CCU Hours	CVICU Hours	Total Hours

Preceptor Name	Initials

## Saint Alphonsus Life Flight OB Clinical Rotation Objectives Guide

2007-2009

### INSTRUCTIONS FOR SARMC:

1. Please verify that this is the most current version of the objectives guide.
2. You are required to participate in the OB clinical rotation while off-duty or on-duty, completing every objective every 12 months. Objectives may be completed over multiple days. Off-duty participation should not result in overtime.
3. Be sure to complete the rotation prerequisites prior to spending time in a clinical venue.
4. Wear scrubs!
5. Bring your current objectives guide every time you spend time in a clinical venue. Your objectives guide should otherwise be kept in your "Clinical Excellence" 3-ring binder.
6. Ask your clinical preceptor(s) to print their name and initial the objectives guide.
7. Instruct your clinical preceptor(s) to attest to the successful completion of individual objectives by initialing and dating the appropriate objective(s). **THIS IS IMPORTANT!** Preceptors may also provide additional written comments in the space provided. Successful completion of an objective is not necessarily equivalent to competency.
8. Enter the number of vaginal deliveries (objective 2), meconium deliveries (objective 4) and newborn resuscitations (objective 7) during the rotation in the "bean count" boxes.
9. **Remember to check the C-section schedule for newborn resuscitations.**
10. **Be sure to note the number of hours you spend in a clinical venue (include time for on-duty deliveries).**
11. Ask your clinical preceptor(s) to complete an evaluation form. You may need to make additional copies. You should also complete your own evaluation form.
12. Evaluation forms may be forwarded to the Life Flight Administrative Secretary (fax 367-6886).
13. Questions or concerns regarding the OB clinical rotation should be directed to Dr. Kim.

**Saint Alphonsus Life Flight  
OB Clinical Rotation Objectives Guide**

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**ROTATION PREREQUISITES:**

Current NRP certification

Self-directed reading and review of the following topics:

1. Physiologic changes of pregnancy
2. Stages of labor
3. Signs of patient entering transition
4. Signs of impending delivery
5. Mechanics of a normal vaginal delivery
6. Management of a breech delivery
7. Presentation and management of prolapsed cord, nuchal cord, shoulder dystocia, uterine rupture, vaginal hematoma, meconium, amniotic fluid embolism
8. Signs of fetal distress
9. Indications for emergency c-section
10. Presentation and management of preterm labor, premature rupture of membranes (preterm and term), placenta previa, placental abruption, chorioamnionitis, pre-eclampsia and eclampsia.
11. Diabetes and pregnancy
12. Group B strep and pregnancy
13. Rh isoimmunization
14. Trauma and pregnancy
15. Psychosocial needs of the pregnant patient

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OB Clinical Rotation Objectives Guide**  
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	Objective	Preceptor Initials	Date(s)	Preceptor Comments
1	Demonstrate the assessment of the pregnant patient.			
2	Assist or observe a vaginal delivery.	Bean Count		
3	Inspect the placenta.			
4	Meconium delivery: • Recognize and describe meconium.	Bean Count		*If no patients available, discuss with a preceptor.
	• Perform or observe direct tracheal suctioning.	Bean Count		
				*If no patients available, discuss with a preceptor.
5	Perform a post-partum perineal inspection.			
6	Perform fundal massage.			
7	Assist or observe a newborn resuscitation.	Bean Count		
8	Calculate the Apgar score.			

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OB Clinical Rotation Objectives Guide**  
Name \_\_\_\_\_

**2007-2009**

Date	Hospital	Number of Hours

Preceptor Name	Initials

**Saint Alphonsus Life Flight  
OR Clinical Rotation Objectives Guide**

**2007-2009**

Name \_\_\_\_\_ Today's Date \_\_\_\_\_

**INSTRUCTIONS FOR SARMC:**

1. Please verify that this is the most current version of the objectives guide.
2. You are required to complete the OR clinical rotation at least once every 12 months.
3. To sign-up, call the Life Flight Administrative Secretary (ext. 3207). Confirm that an anesthesiologist who has agreed to work with Life Flight staff is on-duty on your desired date (see attached list of physicians). The OR schedule is usually available 2 weeks before the start of the month.
4. Only ONE (1) Life Flight person may sign-up for a specific day. Sign-up is "first come, first served".
5. Do not sign-up for a day unless you truly intend to go. Once your name appears on the list, you are expected to attend. Cancellations are not welcome in the absence of illness or an unexpected family emergency. Remember that when you sign-up for a day, another person may be denied OR time because of your anticipated attendance. If you must cancel, be sure to notify the Life Flight Administrative Secretary (ext 3207) AND call the OR desk (ext. 2163).
6. You are encouraged to contact Susan Gidding prior to your SARMC OR day for a brief orientation. A pre-visit to the OR to learn how to read the "Board" can be arranged with Susan.
7. Be sure to complete the rotation prerequisites prior to your rotation.
8. You should report to the main OR at 7:00 am, ready to go. Locate an anesthesiologist who has agreed to work with Life Flight staff and disclose your level of intubation experience and airway skills (objective 1). If you want a productive rotation (i.e., "tubes"), do not be shy!
9. Complete a new objectives guide for each day in the OR. Write your name and the date on the objectives guide.
10. Ask your clinical preceptor(s) to print their name and initial the objectives guide.
11. Instruct your clinical preceptor(s) to attest to the successful completion of individual objectives by initialing the appropriate objective(s). THIS IS IMPORTANT! Preceptors may also provide additional written comments in the space provided.
12. You are required to complete objectives 1-6 at least annually. In addition, you are required to demonstrate proper BVM technique on at least one adult (objective 7). Completion of the remaining objectives is desirable but will be dependent on patient availability.
13. Enter the number of endotracheal intubations (objective 8) in the "bean count" box.
14. Completed objectives guides should be kept in your "Clinical Excellence" 3-ring binder.
15. Ask your clinical preceptor(s) to complete an evaluation form. You may need to make additional copies. You should also complete your own evaluation form.
16. Evaluation forms may be forwarded to the Life Flight Administrative Secretary (fax 367-6886).
17. Questions or concerns regarding the SARMC OR clinical rotation should be directed to Susan Gidding or Dr. Kim.

**ROTATION PREREQUISITES:**

1. Watch the Airway Cam videos (available at the Kissler Family Library at SARMC).
2. Intubate an airway manikin and request a critique from another crew member.
3. Insert a combitube in an airway manikin and request a critique from another crew member.
4. Use a flexguide (a.k.a. gum elastic bougie) to intubate an airway manikin and request a critique from another crew member.

**Saint Alphonsus Life Flight  
OR Clinical Rotation Objectives Guide**

**2007-2009**

Name \_\_\_\_\_ Today's Date \_\_\_\_\_

	Objective	Preceptor Initials	Preceptor Comments
1	Discloses level of intubation experience & airway skills at start of rotation (eg, novice, beginner, experienced).		
2	Verbalizes recognition of a suspected difficult airway and understanding of the ASA difficult airway algorithm.		
3	Completes a pre-op airway assessment.		
4	Performs cricoid pressure and external laryngeal manipulation.		
5	Verifies proper endotracheal tube placement utilizing multiple techniques.		
6	Interprets end-tidal CO2 waveforms.		
7	Demonstrates proper BVM ventilation technique using a self-inflating bag:		
	• Toddler (age 28 days – 2 years)		
	• Child (age 2 - 8 years)		
	• Adult		
8	Demonstrates proper endotracheal intubation technique:		
	• Toddler (age 28 days – 2 yrs)	Bean Count	
	• Child (age 2 – 8 years)		
	• Adult		
9	Demonstrates proper use of an intubating stylet (a.k.a. bougie or flexguide or Eschmann tracheal tube introducer).		

Preceptor Name (please print)	Initials

Preceptor Name (please print)	Initials

## Pediatric Clinical Rotation Objectives Guide

**2007-2009**

### INSTRUCTIONS:

1. Please verify that this is the most current version of the objectives guide.
2. You are required to participate in the pediatric clinical rotation while off-duty, completing as many of the objectives as possible in the St. Luke's PICU. Completion of certain objectives may be subject to patient availability. Objectives may be completed over multiple days. The annual minimum requirement for the PICU clinical rotation is four (4) hours.
3. To sign-up, call the Life Flight Administrative Secretary (367-3207) at least one (1) week in advance. More than one Life Flight person may sign-up for a specific day but only one person is permitted at any given time. Sign-up is "first come, first served".
4. The following times are available: 0700-1100, 1100-1500, 1500-1900 and 1900-2300. The optimal times for physician interaction are 1100-2300. In general, the PICU is busiest late December through April. The summer and November through early December can be very slow. RSV season is best. Tuesdays are "heart days"; the best times to see these patients are on Tuesdays 1100-1500 and 1500-1900.
5. Do not sign-up for a day unless you truly intend to go. Once your name appears on the schedule, you expected to attend. Cancellations are not welcome in the absence of illness or an unexpected family emergency. If you must cancel, be sure to notify the Life Flight Administrative Secretary (367-3207) AND the PICU (381-2900).
6. However, if you are traveling from out of the area, call the PICU (381-2900) the night before to determine patient census. Ask to speak with the charge nurse. If there are only one or two stable patients, you may reschedule your clinical rotation.
7. You will be assigned a PICU preceptor after you schedule your clinical rotation. The name of your preceptor will be provided to you by the Life Flight Administrative Secretary.
8. You may wear your flight suit or scrubs. Street clothes are not permitted.
9. Use the telephone just outside the PICU to gain entry.
10. Be sure to complete the rotation prerequisites prior to reporting to the PICU.
11. Bring your current objectives guide every time you spend time in the PICU. Your objectives guide should otherwise be kept in your crew member 3-ring binder in crew quarters. Print your name and date(s) of your clinical rotation on the guide.
12. Ask your clinical preceptor(s) to print their name and initial the objectives guide.
13. Instruct your clinical preceptor(s) to attest to the successful completion of individual objectives by initialing and dating the appropriate objective(s). THIS IS IMPORTANT! Preceptors may also provide additional written comments in the space provided. Successful completion of an objective is not necessarily equivalent to competency.
14. A preceptor must be present for any and all procedures (e.g. IV starts, suctioning). Nasotracheal suctioning and IV starts may be available on the peds floor. Seek out the respiratory therapist for objectives 11 and 12 (NT and ETT suctioning).
15. Ask your clinical preceptor(s) to complete an evaluation form. You may need to make additional copies. You should also complete your own evaluation form.
16. Evaluation forms may be forwarded to the Life Flight Administrative Secretary (fax 367-6886).
17. Questions or concerns regarding the PICU clinical rotation should be directed to Colleen Mullins or Dr. Kim.

# Saint Alphonsus Life Flight Pediatric Clinical Rotation Objectives Guide

2007-2009

## ROTATION PREREQUISITES:

Current PALS Provider or Instructor certification

Self-directed reading and review of the following topics:

1. Psychosocial considerations of pediatric illness, including fear, pain, anxiety and techniques to provide emotional support to the patient and to family members.
2. Standard precautions and transmission-based isolation (i.e., airborne, droplet and contact precautions)
3. Proper hand-washing technique and the prevention of nosocomial infections.
4. Physiologic differences between the pediatric and adult patient, including anatomy and physical development, neurodevelopment and metabolic factors.
5. Pediatric respiratory assessment.
6. Management of impending respiratory failure, including non-invasive (supplemental oxygen, basic airway maneuvers) and invasive (intubation, ventilatory assistance) therapy.
7. Pediatric cardiovascular assessment, including age-appropriate vital signs, end-organ damage and determinants of cardiac output.
8. Management of impending cardiovascular failure, including preload, contractility and afterload considerations.
9. Patterns of injury in pediatric trauma.

**Saint Alphonsus Life Flight  
Pediatric Clinical Rotation Objectives Guide**

**2007-2009**

Name \_\_\_\_\_

Date(s) \_\_\_\_\_

	Objective	Preceptor Initials	Date(s)	Preceptor Comments
1	Demonstrate a "5 -point" pediatric respiratory assessment (alertness, hypoxemia, respiratory rate & rhythm, work of breathing, air entry).			
2	Demonstrate a pediatric cardiovascular assessment.			
3	Palpate and measure a hepatic margin.			
4	Demonstrate the basic interpretation of a chest x-ray, including identification of the carina and endotracheal tube placement.			
5	Assess and formulate a treatment plan for the following types of patients that includes: <ul style="list-style-type: none"> <li>• diagnostic impression</li> <li>• expected clinical course, outcome and pathophysiology</li> <li>• appropriate interventions</li> <li>• evaluation of treatment interventions</li> </ul>			
	Respiratory			
	Cardiac			
	Neurologic			
	Gastrointestinal			
6	Assess and discuss management of a mechanically-ventilated pediatric patient.			

**Saint Alphonsus Life Flight  
Pediatric Clinical Rotation Objectives Guide**  
Name \_\_\_\_\_

**2007-2009**

Date(s) \_\_\_\_\_

	Objective	Preceptor Initials	Date(s)	Preceptor Comments
<b>7</b>	Interpret arterial blood gas, venous blood gas (VBG), capillary blood gas (CBG) and end-tidal CO2 measurements and discuss appropriate ventilator settings.			
<b>8</b>	Assess and discuss management of a pediatric patient receiving a vaso-active medication or "vasopressor" agent (i.e., dopamine, levophed, dobutamine, isuprel, etc.).			
<b>9</b>	Assess and discuss management of a pediatric patient with a CVP line.			
<b>10</b>	Demonstrate effective nasotracheal suctioning.			
<b>11</b>	Demonstrate effective endotracheal tube suctioning and determine proper tube depth.			

**Saint Alphonsus Life Flight  
Pediatric Clinical Rotation Objectives Guide**  
Name \_\_\_\_\_

**2007-2009**

Date(s) \_\_\_\_\_

<b>Preceptor Name (please print)</b>	<b>Initials</b>

## **VI. Appendix B: Preceptor Checklist**

### SAINT ALPHONSUS LIFEFLIGHT PRECEPTOR CHECKLIST (PAGE 1)

Helicopter Operations	Training (date/initial)			Observed (date and initial)						Proficiency Signoff
EC 135 checkout										
Koala checkout										
206 checkout										
Gurney operations/loading unloading										
Heater and extension cords										
Radio/Intercom Operations (front and back)										
Satellite Phone/Colored Emergency Buttons										
Refueling procedures										
Oxygen/Suction Equipment										
Restocking Packs and Aircraft										
Aircraft Cleaning										
Passenger Briefing										
Securing Equipment										
Scene Safety (Tail Rotor, etc.)										
CRM/Sterile Cockpit Procedures										
Operations with Dual Controls in Place										
<b>Dispatch Training</b>										
Training by Pilots	Training			Observed						Proficiency Signoff
Navigation/Mapping/Coordinates										
Co-pilot Emergency Responsibilities										
IFR Charts/Emergency Checklists										
Safety √ Lists: <b>General:</b>	<b>EC 135</b>			<b>Koala</b>			<b>206</b>			<b>XT:</b>
Fixed Wing Operations(date and initial)	Training			Observed						Proficiency Signoff
XT/8RY Checkout and differences										
Stretcher/Sled Operations										
Charger Board										
Passenger Briefing/Emergency Egress										
Wing Locker/Key										
Door/Cargo Door Operations										
Radios										
Satellite Phone										
Storage Drawers										
Rear Cargo Area/Securing Equipment										
Oxygen/Suction										
Lighting										
Inverter/In-flight charging										
Seat Operations/Movement										
Restocking of Packs/Aircraft										
Cleaning										
Narcotics Procedures/signoff										

**SAINT ALPHONSUS LIFEFLIGHT PRECEPTOR CHECKLIST (PAGE 2)**

<b>Equipment</b>	<b>Training</b>			<b>Observed</b>						<b>Proficiency Signoff</b>
Main Pack										
Pediatric Pack										
Zoll										
Propaq										
Mini-med Pump										
Glucometer										
Ventilator										
Mannitol Pack										
Portable Suction										
NVG										
Invasive Bag										
Sked										
KTD/KED										
Snowshoes										
Survival Gear/Vest/Personal Survival Pack										
Portable Radios/Frequencies										
Portable Oxygen and Replacements										
<b>Misc. Procedures</b>	<b>Training</b>			<b>Observed</b>						<b>Proficiency Signoff</b>
Blood Procedures (inc. all bases)										
Backboard/Equipment Cleaning/Shipping										
Pixis/Narcotics Replacement										
Hospital IV starts										
<b>Reports/Paperwork</b>	<b>Training</b>			<b>Observed</b>						<b>Proficiency Signoff</b>
Patient Reports (Radio)										
Patient Reports (ED)										
EMS PRO										
Dictation/Approvals										
Followup Calls and Letters/Patient Info										
Paperwork (Forms and Flow)										
Trauma Leveling										
<b>Medicine</b>	<b>Training</b>			<b>Observed</b>						<b>Proficiency Signoff</b>
SWO Familiarity										
Drugs (indications, doses, etc)										
Lab Values (esp. critical/actionable)										
IV Drip set-ups										
<b>Discussion Items</b>	<b>Training</b>			<b>Observed</b>						<b>Proficiency Signoff</b>
Ground Transports (Maternal/Nicu,etc)										
Ground Ambulance Familiarity/Equipment										
Daily Routines/Shift Changes										
Crew Quarters Cleaning										



## **VII. Appendix C: Clinical Competencies**

[Endotracheal Intubation](#)

[Invasive Hemodynamic Monitoring](#)

[Patient Assessment](#)

[Management of Pneumothorax](#)

[Vasoactive Medication Infusions](#)

[Ventilator Management](#)

**COMPETENCY: Endotracheal Intubation (revised 6-06)**

**Name:**

**Competency Statement:** Reliably performs endotracheal intubation when indicated.

**Risk/Volume:** High/Moderate

	<u>Performance Criteria</u>	<b>Peer Initial/Date</b>	<b>Medical Director Initial/Date</b>				
		Life Flight Peer Evaluation	Chart Review	Field Performance	Clinical Rotation	Practical Performance	Other
	1. Recognizes need for advanced airway management.						
	2. Recognizes the difficult airway.						
	3. Describes the procedure for rapid sequence intubation including technique, equipment selection and adjunctive medications.						
	4. Paramedic staff successfully intubates in the field at least 6 times annually. Nursing staff successfully intubates in the field at least 4 biannually. Alternatively, intubations may be performed in a clinical rotation and/or other clinical activities.						
	5. Utilizes multiple techniques to verify proper endotracheal tube placement.						
	6. Identifies all esophageal intubations.						

<b>Learning Resources</b>	
	<ol style="list-style-type: none"> <li>1. Orientation</li> <li>2. Standing orders</li> <li>3. Chart review meetings</li> <li>4. Monthly lecture series</li> <li>5. Procedure lab</li> <li>6. ACLS, PALS, NRP, and TNCC provider courses</li> <li>7. ATLS course audit or TNATC</li> <li>8. Clinical rotations</li> <li>9. Mannequin intubation program</li> </ol>

**COMPETENCY: Endotracheal Intubation (revised 6-06)**

**Name:**

<b>Related Policies, Procedures or Protocols</b>	
Life Flight Policies	
	<ol style="list-style-type: none"><li>1. Diseases Affected by Altitude</li><li>2. Life Flight Initial Training Program</li><li>3. Standing Orders for Life Flight</li></ol>
<b>Key</b>	
Peer Evaluation:	Evaluation by Life Flight peer
Chart Review:	Medical Director review of flight records
Field Performance:	Direct observation by Medical Director
Clinical Rotation:	Direct clinical observation by department staff
Practical Performance:	Skills lab, procedure lab, ATLS, etc.

**COMPETENCY: Invasive Hemodynamic Monitoring (revised 6-06) Name:**

**Competency Statement:** Utilizes invasive hemodynamic monitoring to help assess the critically ill patient.

**Risk/Volume:** High/Low

	<u>Performance Criteria</u>	Peer Initial/Date	Medical Director Initial/Date				
		Life Flight Peer Evaluation	Chart Review	Field Performance	Clinical Rotation	Practical Performance	Other
	1. Understands the determinants of cardiac output (heart rate, stroke volume, preload, afterload, contractility, Frank-Starlings Law).						
	2. Understands the hemodynamic relationships between blood pressure, cardiac output and systemic vascular resistance.						
	3. Recognizes the typical pressure waveforms associated with CVP, Swan-Ganz and arterial catheters and their normal values.						
	4. Understands the common causes of abnormal pressure values and abnormal cardiac output and systemic vascular resistance measurements.						
	5. Demonstrates the ability to setup, manage and troubleshoot invasive hemodynamic monitoring apparatus and equipment.						
	6. Interprets invasive hemodynamic monitoring measurements and modifies patient care accordingly.						
	7. Transports a patient with invasive hemodynamic monitoring at least annually. Alternatively, manages a patient with invasive hemodynamic monitoring in a clinical rotation at least annually.						

**COMPETENCY: Invasive Hemodynamic Monitoring (revised 6-06)**

Name:

<b>Learning Resources</b>											
	<ol style="list-style-type: none"> <li>1. Orientation</li> <li>2. Standing orders</li> <li>3. Chart review meetings</li> <li>4. Monthly lecture series</li> <li>5. Procedure lab</li> <li>6. ACLS, PALS, NRP, and TNATC provider courses</li> <li>7. ATLS course audit</li> <li>8. Clinical rotations</li> </ol>										
<b>Related Policies, Procedures or Protocols</b>											
Life Flight Policies											
	<ol style="list-style-type: none"> <li>1. Diseases Affected by Altitude</li> <li>2. Life Flight Initial Training Program</li> <li>3. Standing Orders for Life Flight</li> </ol>										
<b>Key</b>											
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Peer Evaluation:	Evaluation by Life Flight peer										
Chart Review:	Medical Director review of flight records										
Field Performance:	Direct observation by Medical Director										
Clinical Rotation:	Direct clinical observation by department staff										
Practical Performance:	Skills lab, procedure lab, ATLS, etc.										

Saint Alphonsus Life Flight

**COMPETENCY: Patient Assessment (revised 6-06)**

**Name:**

**Competency Statement:** Assesses prehospital and interfacility patients in a timely and accurate manner and initiates life-saving interventions as indicated.

**Risk/Volume:** High/High

	<u>Performance Criteria</u>	Peer Initial/Date	Medical Director Initial/Date				
		Life Flight Peer Evaluation	Chart Review	Field Performance	Clinical Rotation	Practical Performance	Other
	1. Recognizes need for advanced airway management in toddlers (age 28 days – 2 months), children (age 2-8 years) and adults.						
	2. Initiates advanced airway management when indicated.						
	3. Recognizes shock in toddlers, children and adults.						
	4. Initiates fluid resuscitation when indicated.						
	5. Recognizes tension physiology.						
	6. Initiates needle chest decompression and chest tube thoracostomy as indicated.						
	7. Initiates advanced cardiac life support as indicated.						
	8. Initiates spinal immobilization as indicated.						
	10. Demonstrates the basic interpretation of a chest xray.						
	11. Understands altitude & flight physiology and anticipates the potential impact of altitude & flight on patient care.						
	12. Recognizes conditions that require rapid transport and minimizes on-scene and bedside preparation time accordingly.						
	13. Provides patient care in accordance with standing orders.						

**COMPETENCY: Patient Assessment (revised 6-06)**

**Name:**

<b>Learning Resources</b>	
	<ol style="list-style-type: none"><li>1. Orientation</li><li>2. Standing orders</li><li>3. Chart review meetings</li><li>4. Mandatory education sessions</li><li>5. Procedure lab</li><li>6. ACLS, PALS, NRP, and TNCC provider courses</li><li>7. ATLS course audit or TNATC</li><li>8. Clinical rotations</li></ol>
<b>Related Policies, Procedures or Protocols</b>	
Life Flight Policies	
	<ol style="list-style-type: none"><li>1. Diseases Affected by Altitude</li><li>2. Life Flight Initial Training Program</li><li>3. Standing Orders for Life Flight</li></ol>
<b>Key</b>	
	Peer Evaluation: Evaluation by Life Flight peer Chart Review: Medical Director review of flight records Field Performance: Direct observation by Medical Director Clinical Rotation: Direct clinical observation by department staff Practical Performance: Skills lab, procedure lab, ATLS, TNATC, etc.

Saint Alphonsus Life Flight

**COMPETENCY: Management of Pneumothorax (revised 6-06) Name:**

**Competency Statement:** Reliably performs needle chest decompression and chest tube thoracostomy when indicated.

**Risk/Volume:** High/Low

	<u>Performance Criteria</u>	Peer Initial/Date	Medical Director Initial/Date				
		Life Flight Peer Evaluation	Chart Review	Field Performance	Clinical Rotation	Practical Performance	Other
	1. Auscultates and interprets breath sounds correctly.						
	2. Recognizes tension physiology.						
	3. Understands risk factors for tension physiology including trauma and barotrauma.						
	4. Understands the indications for needle chest decompression and chest tube thoracostomy.						
	5. Describes the procedure to perform needle chest decompression and chest tube thoracostomy.						
	6. Demonstrates the ability to setup, manage and troubleshoot chest tubes and chest tube drainage systems.						
	7. Successfully performs needle chest decompression at least once annually. Alternatively, performs needle chest decompression in a procedure lab, TNATC course, or ATLS course audit at least annually.						
	8. Successfully performs chest tube thoracostomy at least once annually. Alternatively, performs chest tube thoracostomy in a procedure lab, TNATC course, or ATLS course audit at least annually.						
	9. Recognizes a pneumothorax on chest xray.						

**COMPETENCY: Management of Pneumothorax (revised 6-06)****Name:**

<b>Learning Resources</b>											
	<ol style="list-style-type: none"> <li>1. Orientation</li> <li>2. Standing orders</li> <li>3. Chart review meetings</li> <li>4. Monthly lecture series</li> <li>5. Procedure lab</li> <li>6. ACLS, PALS, NRP, and TNATC provider courses</li> <li>7. ATLS course audit</li> <li>8. Clinical rotations</li> </ol>										
<b>Related Policies, Procedures or Protocols</b>											
Life Flight Policies											
	<ol style="list-style-type: none"> <li>1. Diseases Affected by Altitude</li> <li>2. Life Flight Initial Training Program</li> <li>3. Standing Orders for Life Flight</li> </ol>										
<b>Key</b>											
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Peer Evaluation:	Evaluation by Life Flight peer										
Chart Review:	Medical Director review of flight records										
Field Performance:	Direct observation by Medical Director										
Clinical Rotation:	Direct clinical observation by hospital staff										
Practical Performance:	Skills lab, procedure lab, ATLS, etc.										

**COMPETENCY: Vaso-Active Medication Infusions (revised 6-06)**

**Name:**

**Competency Statement:** Initiates and manages vaso-active medication infusions in critically ill patients.

**Risk/Volume:** High/Low

	<u>Performance Criteria</u>	<u>Chart Review</u>	<u>Field Performance</u>	<u>Clinical Rotation</u>	<u>Practical Performance</u>	<u>Other</u>	<u>Initial/Date</u>
	1. Understands the determinants of cardiac output (heart rate, stroke volume, preload, afterload, contractility, Starlings Law).						
	2. Understands the hemodynamic relationships between blood pressure, cardiac output and systemic vascular resistance.						
	3. Demonstrates the ability to perform a cardiovascular/hemodynamic patient assessment.						
	4. Recognizes shock and understands the underlying pathophysiology of a patient in shock.						
	5. Understands the indications, mechanism of action, complications, side effects and usual dosing of vaso-active medications commonly used in the critical care setting, including: <ul style="list-style-type: none"> <li>• Dobutamine (Dobutrex)</li> <li>• Dopamine</li> <li>• Nitroglycerin</li> <li>• Nitroprusside (Nipride)</li> <li>• Norepinephrine (Levophed)</li> <li>• Vasopressin (Pitressin)</li> </ul>						
	6. Demonstrates the ability to calculate medication infusion rates given patient weight and medication concentration.						
	7. Demonstrates with ability to prepare a vaso-active medication infusion.						
	8. Demonstrates the ability to setup, manage and troubleshoot Life Flight IV pumps and medication delivery devices.						

**COMPETENCY: Vaso-Active Medication Infusions (revised 6-06)**

**Name:**

	9. Transports a patient with a vaso-active medication infusion at least quarterly. Alternatively, manages a patient with a vaso-active medication infusion in a clinical rotation at least quarterly.							
	10. Initiates and manages vaso-active medication infusions in accordance with standing orders.							
<b>Learning Resources</b>								
	<ol style="list-style-type: none"> <li>1. Orientation</li> <li>2. Standing orders</li> <li>3. Chart review meetings</li> <li>4. Mandatory education sessions</li> <li>5. Procedure lab</li> <li>6. ACLS, PALS, NRP, and FNATC provider</li> <li>7. ATLS course audit</li> <li>8. Clinical rotations</li> </ol>							
<b>Related Policies, Procedures or Protocols</b>								
Life Flight Policies								
	<ol style="list-style-type: none"> <li>1. Diseases Affected by Altitude</li> <li>2. Life Flight Initial Training Program</li> <li>3. Standing Orders for Life Flight</li> </ol>							
<b>Key</b>								
	<p>Chart Review: Medical Director review of flight records</p> <p>Field Performance: Direct observation by Medical Director</p> <p>Clinical Rotation: Direct clinical observation by department staff</p> <p>Practical Performance: Skills lab, procedure lab, ATLS, etc.</p>							

**COMPETENCY: Ventilator Management (revised 6-06)**

**Name:**

**Competency Statement:** Safely operates a mechanical ventilator. In response to patient condition, manages ventilator settings appropriately.

**Risk/Volume:** High/Moderate

	<u>Performance Criteria</u>	Peer Initial/Date	Medical Director Initial/Date				
		Life Flight Peer Evaluation	Chart Review	Field Performance	Clinical Rotation	Practical Performance	Other
	1. Understands the physiology of respiration.						
	2. Understands modes of mechanical ventilation and CPAP.						
	3. Understands the potential hemodynamic effects of mechanical ventilation.						
	4. Demonstrates the proper operation of oxygen-delivery systems.						
	5. Demonstrates the proper operation of volume-cycled and CPAP devices.						
	6. Demonstrates the ability to perform a respiratory assessment						
	7. Auscultates and interprets breath sounds correctly.						
	8. Understands the significance of arterial blood gas and end-tidal CO2 measurements and adjusts ventilator settings accordingly						
	9. Recognizes tension physiology.						
	10. Understands risk factors for tension physiology including trauma and barotrauma.						
	11. Demonstrates proper suctioning technique.						
	12. Safely utilizes adjunctive medications such as paralytics, narcotics and sedatives as indicated.						

**COMPETENCY: Ventilator Management (revised 6-06)**

**Name:**

	<u>Performance Criteria</u>	Peer Initial/Date	Medical Director Initial/Date				
		Life Flight Peer Evaluation	Chart Review	Field Performance	Clinical Rotation	Practical Performance	Other
	13. Transports a mechanically ventilated patient at least annually. Alternatively, manages a mechanically ventilated patient in a clinical rotation at least annually.						
	14. Provides ventilator management in accordance with standing orders.						

<b>Learning Resources</b>	
	<ol style="list-style-type: none"> <li>1. Orientation</li> <li>2. Standing orders</li> <li>3. Chart review meetings</li> <li>4. Monthly lecture series</li> <li>5. Procedure lab</li> <li>6. ACLS, PALS, NRP, and TNATC provider courses</li> <li>7. ATLS course audit</li> <li>8. Clinical rotations</li> </ol>

<b>Related Policies, Procedures or Protocols</b>	
Life Flight Policies	
	<ol style="list-style-type: none"> <li>1. Diseases Affected by Altitude</li> <li>2. Life Flight Initial Training Program</li> <li>3. Standing Orders for Life Flight</li> </ol>

<b>Key</b>	
Peer Evaluation:	Evaluation by Life Flight peer
Chart Review:	Medical Director review of flight records
Field Performance:	Direct observation by Medical Director
Clinical Rotation:	Direct clinical observation by department staff
Practical Performance:	Skills lab, procedure lab, ATLS, etc.

**VIII. Appendix D: Life Flight Standing Orders**

**IX. Appendix E: Aircraft Equipment Checklists**

**X. Appendix F: Summary of Care Form and Form Directive**

## Summary of Care Form Directive

Please complete the "Summary of Care" form as follows. A completed original should be given to receiving facility staff as soon as feasible and prior to leaving the receiving facility. Receiving facility staff should also be given an EKG rhythm strip and vital signs printout, which can be attached to a mounting sheet. Retain a copy of the completed form for billing and SARMC medical records.

1. **MR #** – Enter the patient's SARMC medical record number, if known.
2. **LF Account #** – Enter the patient's LF account number, if known. If patient name is unknown, use the name that the receiving facility uses to register the patient.
3. **Flight #** – Enter the LF flight number.
4. **Last Name/First Name** – Enter the patient's first and last name. If the patient's name is unknown, use the name that the receiving facility uses to register the patient.
5. **Date** – Enter the date of the flight.
6. **Age** – Enter the patient's age. Use days or months as appropriate for infants.
7. **Male/Female** – Mark the appropriate box to indicate the patient's gender.
8. **CC/Transfer Dx** – For prehospital missions, enter the patient's chief complaint. For interfacility transfers, enter the transfer diagnosis.
9. **Allergies** – List the patient's medication allergies. Mark the NKDA box if the patient has no known drug allergies.
10. **PMH** – List the patient's pertinent past medical & surgical history.
11. **Current Meds** – List the patient's prescribed medications. Medications administered by LF, EMS and the sending facility should be listed in the "Medications Given" box.
12. **Brief HPI** – Briefly describe the history of present illness or injury.
13. **Time of injury/symptom onset** – Enter the time of injury or symptom onset. Document the time zone if the flight originated in another time zone.
14. **Pertinent Positive or Negative Physical Findings** – List or describe pertinent physical findings. Fields may be left blank in this section if they are not pertinent. An example of a pertinent negative physical finding is "abd: non-tender" for a rollover MVC.
  - a. **Latest BP, HR, RR, O2 sat** – Enter the most recent measurements for blood pressure, heart rate, respiratory rate and oxygen saturation.
  - b. **FiO2** – Enter the amount of supplemental oxygen. Abbreviations such as 2L or NRB are acceptable.
  - c. **EKG rhythm** – Enter the EKG rhythm.
  - d. **Neuro** – Document pertinent neurologic findings.
  - e. **GCS Eye, Verbal, Motor** – Enter the patient's Glasgow Coma Score.
  - f. **L pupil/R pupil** – Document the size and reactivity of the left and right pupils.
  - g. **Cardiac** – Document pertinent cardiac findings.
  - h. **Lung sounds** – Document pertinent lung sounds or asymmetry.
  - i. **Abd** – Document pertinent abdominal findings.
  - j. **Other** – Document any other pertinent physical findings.
  - k. **Body Diagram** – Indicate & label pertinent physical findings such as swelling, tenderness, deformity, ecchymosis, erythema, laceration, abrasion, etc.
15. **Assessment & Treatment Summary** – Document your patient assessment (working diagnosis/diagnostic impression), treatment priorities and interventions. Avoid stating the obvious, such as "patient was moved to the aircraft", "hearing protected was applied", etc.
16. **Medications Given** – List the medications that the patient has received, including the time, dose and route of administration. Medications given prior to LF arrival may be listed as PTA.
17. **ET tube reassessed after patient transfer** – Mark the box to attest that you have reassessed ET tube position & placement after patient transfers.
18. **ET tube depth (cm)** – Check the ET tube depth when care is transferred to receiving facility staff and enter the ET tube depth in centimeters.
19. **Vent settings: MODE, TV, RATE, PS, PEEP** – Enter the patient's current ventilator settings (mode, tidal volume, rate, pressure support, PEEP).
20. **Fluids (type) by LF** – Enter the type and amount of fluids or blood products administered by LF.
21. **Output (type) by LF** – Enter the type and amount of output by the patient while attended by LF.
22. **Total fluids (type)** – Enter the type and total amount of fluids and blood products administered to the patient. This total should include volume administered prior to LF arrival and during transport.
23. **Total output (type)** – Enter the type and total amount of output by the patient. This total should include any output prior to LF arrival and during transport.
24. **Crewmember signature** – The crew member completing the form should sign here. Enter the date of the flight.
25. **EKG rhythm strip/vital signs printout** – Attach an EKG rhythm strip and vital signs printout to a mounting sheet.



## **XI. Appendix G: Supervision and Training Standards for EMS Students**

Currently, no EMS training programs have been approved for Life Flight.