RIAMP
Remote and Industrial Advanced Medic Program

What is RIAMP?
Training designed for experienced, certified paramedics, nurses and qualified military personnel who are transitioning from the classical medical role to that of a medic working independently in a remote location or as a physician extender. These professionals provide complex care for both emergency and non-emergency patients in land and maritime divisions of the resource extraction, oil, and gas industries.

This training is an extensive advanced medical program and is typically provided over a 20-22 week period through a combination of online learning, onsite practical labs, and internship. The workshop covers advanced trauma care, atypical resuscitation, extended medical or trauma patient care while waiting evacuation resources, primary care problems, dental emergencies, medical clinic/supply management issues and preventive health.

Training Format
The training is an extensive advanced medical program, delivered in three segments, and run over a 20-22 week period (roughly 400 instructional contact hours):

Section 1: Distance learning via ONLINE course of instruction (approx. 12 weeks).
Section 2: Simulation, clinical applications and practical skills sessions at the CLIMB facility (15-18 days).
Section 3: 100 hr. Clinical Internship with primary care physician, plus a 100 hour internship placement in an emergency medicine environment or a remote/developing world setting under the direct guidance of an Advanced Medic or Physician.

Objective: Provide the knowledge, skills, and experience needed by the participants to provide the finest extended and primary delegated medical care possible in remote and atypical settings.

Prerequisites:
- Licensure in good standing by the appropriate regulatory bodies for Paramedics, Registered Nurses, honorably discharged or retired military with qualified health training
- Minimum of five years active experience in the participant’s field
- A strong comprehension of both spoken and written English
- A desire to learn, share, teach, and do
- Strong team work skills and the ability to function in a disciplined environment
- Reasonable physical and mental conditioning
- A clear understanding that this program teaches remote and operational medicine via a portion requiring teaching and performing in third world hospitals, clinics, and challenging environmental settings
- A clear understanding that this is a process to meet accepted international standards and that successful completion of the program is not automatic, but entirely dependent on student’s meeting of all standards and demonstrating the appropriate mindset required.
Section 1 of the training is delivered via online distance learning and takes approximately 12 weeks to complete with at least one online learning session per week, which may be from two to four hours in length. In addition, participants will have assignments and discussion groups to accomplish during each week.

**Section 1 Topical and Instructional areas:**

1. Anatomy and Physiology Advanced Clinical Review  
   a. Review of basic A & P  
   b. Surface anatomy review  
   c. Ultrasound/Radiology anatomy review  
   d. Surgical procedure anatomy review  
   e. Clinical case correlations

2. Introduction to Physician Extender application and Advanced Patient Care Processes  
   a. Medical terminology and abbreviation review  
   b. Documentation, patient care records, electronic patient care records, 9-Lines  
   c. Telemedicine interaction and remote communications  
   d. Use of Physician Medical Control for directed care  
   e. Protocols, Guidelines, Procedures and SOPs  
   f. The complete patient history  
   g. The complete patient physical examination  
   h. Specialty examinations  
   i. Evaluation of pain  
   j. Evaluation of consciousness level  
   k. Performing a mental status exam  
   l. Rapid Medical Assessment

3. Medications  
   a. Review of medication names and classifications  
   b. Pharmacology review  
   c. Drug calculations and administration considerations  
   d. Medications in the British Senior Paramedic and Emergency Care Practitioner Formulary  
   e. Commonly prescribed primary healthcare medications.

4. Diagnosis and Initial/Advanced Management of Medical Emergencies  
   a. Acute abdominal pain  
   b. Acute barotraumas  
   c. Acute behavioral changes  
   d. Acute dental pain  
   e. Acute head and neck infection

5. Advanced Care Diagnostics
a. Hematology Basics, the CBC, and Type and Cross Match
b. Basic laboratory analysis and results interpretation:
   - Chem 40, Chem 80
   - Electrolytes
   - Shock panels
   - Liver panel
   - ABG’s/VBG’s
c. Capnography interpretation and use
d. Ultrasound use as an emergency diagnostic device.

6. Advanced Medical Procedures
a. Advanced Airway Decisions and Process
b. Non-invasive ventilation options
c. Oxygen use and trials
d. Needle Cricothyrotomy
e. Needle Thoracentesis
f. Urethral catheterization
g. Nasogastric/Oralgastric Tubes
h. Intraosseous Infusion
i. Hemorrhage Control
j. Conscious sedation
k. Improvisational medicine & care

7. Common industrial/workplace complex medical issues
a. Triage of clinic patients
b. Advanced Cardiopulmonary Life Support in remote settings
c. Declining/Stopping resuscitation in remote settings
d. Intoxication/OD patients
e. Poisoning/Toxidromes
f. Heat/Cold injuries local and systemic in the workplace
g. Stress and psychological injuries

8. Operational Trauma Care
a. A general approach to trauma
b. System specific trauma care
   - Chest Trauma
   - Abdominal trauma
   - Extremity Trauma
c. Blast trauma and explosive injuries
d. Advanced Burn Care
e. Additional medications for trauma
f. Hypovolemic Shock

9. Advanced Trauma Care
a. Review of trauma mechanisms, energy transfer, wound ballistics
b. Advanced Trauma Assessment and Diagnostics
   - Physical Exam
   - Laboratory Studies
   - Ultrasound
c. Additional Trauma medications/drugs
d. Hemorrhagic shock
e. Blood and Blood Substitute transfusions
f. Wound care & wound closures
g. Fracture and dislocation reduction
h. Sports medicine considerations

10. Advanced Trauma Procedures
a. Advanced Airway Decision Process
b. Translaryngeal Jet Ventilation
c. Surgical Cricothyrotomy
d. Thoracostomy (Chest Tube)
e. Suprapubic Needle Cystotomy
f. Central Line Access and Management
g. Transfusion Therapy: Blood and Blood products
h. Field amputations
i. Compartment Syndrome Fasciotomy
j. Escharotomy
k. Wound debridement
l. Surgical approach to abscess and drain placement
m. Advanced Dental Care tactics

11. Tactical Casualty Care and High Threat Medicine Environments
a. Military Medic History
b. Civilian medicine vs. combat medicine
c. Echelons (Levels) of Care
d. Pre-hospital Care in The Tactical Environment
e. Care under fire
f. Tactical Field Care
g. Casualty Evacuation (CASEVAC)
h. Medical evacuation (MEDEVAC)
i. Aero-medical Evacuation (AE)
j. Urban Warfare considerations
k. Ethical Considerations
12. Environmental, Diving, & Aerospace Medicine
   a. General Poisonings and Management
   b. Hazardous plants worldwide
   c. Dangerous animals worldwide
   d. High Altitude Environment
      • Human Physiological Responses to High Altitude
      • Operational Factors in High Altitudes
   e. Dive Medicine
   f. Flight Doctrine and Principles
      • Flight Physiology and the Physical Stresses of Flight
      • Pre-Flight Assessment
      • In-Flight Management Considerations

   a. Deployment considerations
   b. What is force protection
   c. Medical material management
   d. Medical kits, supplies, control, inspection
   e. Sources for public health information
   f. Pre-travel Health Risk Assessment
   g. Medical mission planning
   h. Immunizations use and patient teaching
   i. Personal hygiene importance and patient teaching
   j. Food & water sanitation importance and patient teaching
   k. Waste control importance and teaching
   l. Pest and vector control tactics

14. Transport & Evacuation
   a. Patient immobilization/restraint
   b. Transport platforms
   c. Special considerations
Section 2 of the training is delivered at an educational facility (PCC CLIMB) over a two week period. There is significant use of simulation (using live medical actors and sim-man systems), practical skills, and surgical lab skills.

**Section Two – Simulation, Practicals, and Lab Skills**

Section 2 Focus Areas:

1. **Fundamentals Practice and Simulations**
   a. Advanced Medical Assessment Simulations
   b. Advanced Trauma Assessment Simulations
   c. Advanced Behavioral and Mental Health Assessment Simulations
   d. Anatomy and Pathophysiology application and testing
   e. Medical Math application and practice
   f. Medical Terminology and Patient Care Documentation practice
   g. Personal Protection and hostile patient assessment systems

2. **Communications and Telemedicine Simulation**
   a. Audio, Visual and Data Equipment demonstrations
   b. Medical Direction overview
   c. Advanced assessment simulations with integrated telemedicine and medical control utilization.

3. **Central Supply and Store Orientation**
   a. Cleaning Packaging and Storage of medical equipment and supplies
   b. Sterilization procedures
   c. Establishing and managing a sterile field

4. **Operation of a Remote Clinic Orientation**
   a. Legal issues and integration with local laws and procedures
   b. Facilities and Infrastructure
   c. Security considerations
   d. Supply and Resupply
   e. Patient Flow Through Facility and recording
   f. Strike and Move Operations

5. **Patient Movement and Evacuation Procedures Lab**
   a. Patient Carries
   b. Soft Stretchers

   c. Stokes, Sked and KED
   d. Docks, Hatches and Obstacles
   e. Ground Vehicles
   f. Air Vehicles
   g. Vessels

6. **Personal Care and Nursing Principles for patient comfort and safety practical lab**
   a. General principles of personal care
   b. Patient Hygiene and Activities of daily living
      - Bathing patients
      - Urinary and fecal care
      - Shaving
      - Feeding
   c. Nutrition considerations both oral and intravenous
   d. Dying and Death simulations
   e. Management of lines, drains, and tubes

7. **Field Laboratory and Ultrasound Medicine Lab**
   a. Field Lab Equipment
   b. Sputum collection and use
   c. Urine collection and use
   d. Blood collection and basic lab procedures
   e. Stool collection and basic testing
   f. Basic microscope utilization
   g. Emergency Ultrasound use and application

8. **Medication and Fluid Administration Lab**
   a. Sharps & Personal Protection Review and Disposal
   b. Medication Delivery
   c. Fluid Concepts
   d. Proctoclysis
   e. Dermoclysis
   f. Peritoclysis
   g. IO
   h. Peripheral IV
   i. Central IV
   j. Transport with Fluids
9. Trauma and Shock Resuscitation Simulations
   a. Shock management and diagnostics
   b. Fluid and General Resuscitation/Interventions
   c. Blood Resuscitation
   d. Blast and Crush Injuries
   e. Burn Injuries
   f. Penetrating Injuries

d. Pain control options and integration of alternatives (exercise, physical therapy, diet changes, etc...)

10. Orthopedics, Head and Spine Injuries Practicals
   a. Anatomy Implications and General Orthopedic Principles
   b. Immobilization and reductions of Upper Fracture and Dislocations
   c. Immobilization and reductions of Lower Fracture and Dislocations
   d. Head and Spinal Cord Injuries
   e. Spinal Immobilization
   f. Spinal injury Clearance or Transport
   g. Spinal injury Clearance or Transport

c. Gastrointestinal

d. Neuro/Metabolic

e. Infectious/Sepsis

11. Anesthesia Practice Lab
   a. General principles of anesthesia
   b. Local blocks and tactics
   c. Regional anesthesia
   d. Conscious Sedation procedures
   e. Complete Anesthesia

12. Surgical Lab - procedures for wounds
   a. General principles of wound treatment
   b. Wound Healing tactics
   c. Wound care tactics
   d. Wound dressings and improvisation of difficult dressing situations
   e. Wound Repair through debridement, drainage, suturing, and medical adhesives
   f. Special Procedures and techniques

e. Cardiac

f. Respiratory

g. Gastrointestinal

13. General Pharmacology Practice
   a. Pharmacology physiology
   b. Units of Measure and Calculations
   c. Specific medication administration process and challenges:
      • Cardiac
      • Respiratory
      • Gastrointestinal
      • Neuro/Metabolic
      • Anti-Infective

14. Advanced Medical Care Cases and Simulations
   a. Cardiac
   b. Respiratory
   c. Gastrointestinal
   d. Neuro/Metabolic
   e. Infectious/Sepsis

15. Advanced Environmental Conditions Care Cases and Simulations
   a. Heat
   b. Cold
   c. Flora and Fauna
   d. Diving
   e. Altitude

16. Special Circumstance Critical Care Cases and Simulations
   a. General Principles
   b. Advanced Patient Monitoring
   c. Advanced Resuscitation
   d. Special Populations
   e. Geriatrics
   f. Pediatrics
   g. Women

17. EENT Conditions Cases and Simulations
   a. Otoscope and Ophthalmoscope use and practice
   b. Eye Conditions
   c. Ear Conditions
   d. Nose Conditions
   e. Throat Conditions

18. Dermatology Cases and Simulations
   a. General Principles
   b. Infectious Conditions
   c. Non-Infectious Conditions
   d. Chronic, Emergency, & Systemic Diseases
19. Podiatry Conditions
   a. General Conditions
   b. Nail Conditions
   c. Boney & Soft Tissue Conditions
   d. Procedure Practice:
      • Tenotomies
      • Amputations
      • Casting

20. Psychiatric Cases and Simulations
   a. General Principals
   b. Use of the Mental Status Exam
   c. Emergency Interventions

   a. General Principles

22. Preventive Medicine and Sanitation Practice
   a. Force Protection
   b. Food Principles
   c. Water Principals
   d. Waste Principles
   e. Vector Control
   f. Public Health processes

23. Primary Care and Sick Call Cases and Simulations

24. Simulations - Putting the pieces together as a generalist
Section 3 of the training is a two part clinical internship, culminating with the participant assigned to a remote care environment or developing country (100 hours in primary healthcare environments under the direct supervision of a physician and a 100 hour period with an advanced paramedic in a remote area). The participant will provide care to a variety of patients with various pathologies during their internship period, while their instructor critiques, guides, coaches, and directs their efforts. This is a unique aspect of this training, since many programs simply provide didactic and limited practical learning, without the application portion which is desperately needed for the participant to be functional in this environment and role.

Section Three – Clinical Internship

Course Objectives:

• Demonstrate communication effectively with shore-based medical services and to apply such care or treatment as they direct;
• Show how to provide treatment in accordance with the directions of a medical practitioner in circumstances where it is not practicable or necessary for the latter to attend a patient offshore;
• Give appropriate treatment to anyone suffering from illness or injury offshore, where such illness or injury does not require skilled medical attention or until skilled medical attention becomes available, equipping them to:
  o Take a concise, accurate history of the patient’s symptoms;
  o Perform a clinical examination;
  o Establish basic information regarding the patient’s physical state, ie: pulse, temperature, respiration, blood pressure;
  o have knowledge of the availability of other medical services, mobile or shore based;
  o Communicate effectively relevant medical information to a shore-based medical service;
  o Understand and comply with the medical advice and directions of a medical practitioner when received;
  o Give basic bedside care to sick and injured people;
  o Undertake treatment for minor ailments and injuries, and supervise the continuation of such treatment;
  o Initiate appropriate first-aid measures in cases of serious injury or illness;
  o Apply appropriate resuscitation measures and initial treatment in cases of unconsciousness or critical illness;
  o In an emergency, carry out procedures such as intravenous therapy and endotracheal intubation and urinary bladder catheterization;
  o Initiate procedures designed to stabilize a patient’s medical condition and maintain vital functions;
  o Prepare patients for transport ashore by air or sea, give appropriate information to the cabin crew regarding the patient’s condition and, if necessary, be prepared to accompany the patient ashore;
  o Recognize common infectious conditions and implement appropriate methods for isolation and treatment;
  o Recognize common dental conditions, including indications for the emergency use of analgesics;
  o Recognize common psychological and psychiatric conditions;
  o Know the effects and side-effects of available drugs and the indications and contra-indications for their use in treatment; be aware of the hazards of diving and understand the correct procedures for treating medical conditions associated with diving;
• Maintain adequate medical records of illness and injury, and be able to write brief reports and letters of referral about patients (with due regard for confidentiality);
• Be capable of giving simple advice to offshore personnel regarding their health problems and of indicating methods of improving general health (including stress-related issues) and welfare;
• Understand food and general hygiene requirements offshore and be able to recommend improvements where required;
• Know the occupational and toxicological hazards offshore and, so far as possible and in conjunction with other personnel, give advice as to how health risks arising from these hazards may be minimized;
• Be capable of giving advice on the first-aid arrangements for visits to normally unattended installations;
• Maintain the sick bay, its equipment and medical stores, order supplies and keep records of materials and drug usage;
• Be familiar with the offshore medic’s role in emergency response plans;
• Know the statutory requirements affecting the offshore medic’s role.
• Demonstrate proficiency with portable ultrasound for FAST, RUSH, AAA, and guided procedures.
• Demonstrate the ability to perform surgical debridement, packing, and closure.
• Demonstrate the ability to place both standard and atypical chest tubes.
• Demonstrate the ability to perform all practical skills outlined in the 2009 Paramedic curriculum.
• In scenario testing, utilizing live models and simulation manikins, demonstrate the ability to identify, intervene, and manage patients in trauma, medical, psychiatric, and primary healthcare simulations.

After each section of the training, the participant will be notified whether they have attained a grade warranting continuation to the next step. At the end of their internship process, the participant will receive their certificate documenting their completion of the training/course.