



Mastering Rescue of the Deteriorating Patient

Introduction

Patient safety is a trending concern in hospital. In 2016, the US Institute of Health Initiatives ranked 'being a patient in hospital' the 3rd leading cause of death in the US. Estimates for US and Canada predict that about 450,000 lives are lost each year due to medical error, hospital acquired infection and failure-to-rescue events. This is not unique to North America. Nations across Europe (UK may be in the lead), South Africa and Australia have started to address this tripartite risk with a common belief that this is largely preventable.

InTime takes on the challenge of the failure to rescue the acutely deteriorating patient. One study identifies most (2/3) of patient safety events that lead to injury or death attributed to this phenomenon.

Failure to rescue can occur due to several factors that include:

- insufficient knowledge of typical and atypical signs and symptoms of hemodynamic compromise
- lack of awareness of patient deterioration i.e. high patient: care provider ratios, infrequency of emergencies, fatigue
- handover communication failures
- inability to mobilize resources and skills i.e. story crafting skills (unable to pass on an accurate picture to those needed to intervene), assertiveness challenges, inconsistencies in communication methods, multidisciplinary barriers including hierarchical workplaces
- missing the forest for the trees – choosing 'one size fits all' emergency interventions without prioritizing key actions proven to yield the greatest success
- for the arrested patient, frequent interruptions to CPR, poor performance of chest compressions, over ventilation and delays in key interventions proven to treat the imminent/underlying cause of the arrest
- for the post arrest patient, difficulties in handover of care and in the timely application of key measures proven to enhance survival to discharge.

This is a multi-layered human problem that needs a practical approach that works across diverse settings patient care. While the intended benefit of InTime includes patient rescue, the primary beneficiary is the front-line healthcare provider.

InTime approaches healthcare provider knowledge, skills, motivation and confidence wrapped around a three step approach to care: **Identify** (situational awareness – assessment - reassessment – bolstered with an understanding of normal physiology and acute pathophysiology); **Include** (mobilize key resources, include people with skills that can optimize success); and **Intervene** (pre-arrest, arrest and post-arrest skills – technical (airway, CPR, bed mitigation, fluid resuscitation, recording, electrical therapy and medication administration) and social skills (communication, assertiveness and team dynamics).

What You Get to Do

The InTime course is a 2-day session of interactive didactic sessions, hands on skill building, simulated scenario performance and group game-like exercises. Handouts include documents that offer some history

and scope of the problem of failure to rescue, research into causative mechanisms, a track and trigger tool, communication tools and a workbook to review normal physiology and pathophysiology.

The course begins with introductions, an overview of course (history, problem scope, proposed solution with rationale, course agenda), and a review of the core knowledge points necessary to recognize changes in clinical status. Equipped with a fresh perspective on physiology and pathophysiology, the three-step approach to mastering rescue of the deteriorating patient is introduced: **Identify, Include, Intervene**. The first day concludes with an introduction to the components and core skills that quickly and effectively mobilize people and resources.

Day 2 begins with simulations and group exercises to practice the first two steps (Identify | Include) followed by skill building to begin to master the skills needed to successfully Intervene (Step 3). Skills include airway management, fluid resuscitation, core actions for pre-arrest | arrest | post-arrest care (Basic Life Support plus) required before and after the advanced care team arrives.

A completion card for the InTiME course is presented at course completion. An optional InTime quiz will be available to aid in self-assessment of your knowledge and decisions in the care of the acutely deteriorating patient.

During and after the InTime course, you will:

- identify signs and symptoms of hemodynamic compromise (shock)
- connect signs and symptoms to normal physiology and to possible pathophysiologies
- use track and trigger tools
- evaluate your situational awareness competency level
- frame assessment and reassessments into an ongoing ABCDE approach
- prioritize resources and skills needed to intervene successfully
- craft patient stories to generate timely actions of those needed to intervene
- use communications tools to brief, debrief, offer feedback, evaluate team dynamics and lead when necessary
- deliver brain saving CPR that factors in components such as CPR feedback devices, bed mitigation techniques, coaching and effective ventilations (slow and easy)
- suggest interventions that enhance survivability peri-arrest
- offer feedback during debriefing to ensure optimal team performance for future emergencies
- apply the three-step approach to patient rescue across the lifespan – pediatric to elderly

Optional experiences dependent on the group:

- interpret ECG rhythms using the simple but powerful 3-step Six Second ECG method
- perform hospital-based CPR – using the KA bundle
- attach ECG electrodes, attach defibrillation/pacing pads and operate a monitor defibrillator in AED mode
- successfully insert alternative advanced airways (LMA, King LT, iGel) and assist in ETT intubation

Course Agenda

Day 1

Introduction

Scope of the Problem, Causes and Strategic Solution

Cardiovascular Physiology – Cardiac Output – Blood, Oxygen, Glucose

Heart Rate Variation – Vagus vs Catecholamines

What is Shock – Making Sense – typical and atypical S&S

Break

Respiratory Emergencies – typical and atypical S&S

Cardiovascular Emergencies – Acute Coronary Syndromes and Stroke

Endocrine Emergencies – typical and atypical S&S

Neuro Emergencies – typical and atypical S&S

Lunch

Morning review – case studies and rapid-fire group game

Introducing a 3-step approach to Patient Rescue: Identify | Include | Intervene

Identify: Monitoring – Situational Awareness and Vigilant Monitoring; Assess and Reassess

Hunting for critical events – signs, symptoms, decision framework, ABCDE

Introducing Track and Trigger Tools

Include: Mobilize Resources and Abilities to Intervene Early and Effectively

Introducing SBAR plus: Crafting a Story to Initiate Immediate Response

Day 2

Review of Day 1 - case study x 2 and rapid-fire group game

Intervene: Start Well – Core Life Support skills – begin with airway management

What, Why and How of Electrical Therapy

Break

CPR – Quality? High Quality? KA? – Saving Brain to Save All

Mitigating the Bed – Vital maneuvers to ensure blood flow during CPR

Fluid Resuscitation

Teamwork – before, during and after arrest

Lunch

Scenario Practice

BLS Practice & BLS Quiz

Wrap-up simulations – incorporating I³ approach throughout

Course Evaluations – What's Next