



# Anhang 1

## *Swiss Clinical Emergency Medicine Specific Learning Objectives*

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#### Contents

Contents	1
Introduction to Swiss Clinical Emergency Medicine Specific Learning Objectives	3
Abbreviations used in Swiss Clinical Emergency Medicine Specific Learning Objectives	4
A1: Generic objectives for Resuscitation	4
A1.1: Resuscitation – Cardiac Arrest / Peri-arrest	5
A1.2: Resuscitation – Shock	6
A1.3: Resuscitation – Coma	7
A2: Pain Relief and Conscious Sedation	8
A3.1: Major Trauma	10
A3.2: Head Injury	11
A3.3: Chest Trauma	12
A3.4: Abdominal an Pelvic Trauma	13
A4: Minor Trauma and Wound Management	15
A5: Generic objectives for musculoskeletal conditions	16

A6.3: Rheumatology	17
A7: Vascular Emergencies	19
A8: Abdominal pain and intestinal bleeding	20
A9: Urology	22
A10: Eye problems	23
A11: ENT and Dental Emergencies	24
A12: Chest Pain and Cardiology	26
A13: Respiratory Medicine	29
A14: Neurological Emergencies and Headache	32
A15: Hepatic Disorders	34
A16: Toxicology	35
A17: Acid Base and Ventilatory disorders	36
A18: Fluid and Electrolytes	37
A19: Renal Disease	38
A20: Diabetes and Endocrinology	39
A21: Haematology and Oncology	40
A22: Infectious Diseases, Sepsis and Sexually Transmitted Disease	42
A23: Dermatology	44
A24: Psychiatry	46
A25: Legal Aspects of Emergency Medicine and Discharge Policy	48

Contents

## Introduction to Swiss Clinical Emergency Medicine Specific Learning Objectives

The following pages describe the knowledge and skills required of a Clinical Emergency Physician in Switzerland.

This Swiss Clinical Emergency Medicine specific learning objectives are an adaptation of the English Emergency Medicine specific learning objectives. The authors of this catalogue intended to be concise and to avoid duplications. Therefore, they avoided detailed descriptions of all potential diagnoses. Furthermore, the knowledge and skills should be put into the context of the curriculum described in the previous section.

The authors of this catalogue did not describe the assessment methods after each problem. In absence of a final exam and in absence of standardised quality assessment instruments in Swiss emergency medicine education the assessment is in most units observed care and case based discussion.

It is expected that the trainee will manage increasingly complex cases independently as he or she progresses through training. With regard to Paediatrics much of the curriculum is directly applicable to children and should be assumed. Those requiring details on sub-specialisation in paediatrics should contact heads of paediatric emergency medicine units in Switzerland. Furthermore, this catalogue does not include emergency circumstances in neonatology.

Specific learning objectives for major incident management in Switzerland were described elsewhere.

Clinical research in emergency medicine is urgently needed in Switzerland, however, will not be described in this catalogue.

Specific learning objectives for clinical research in Switzerland are described in masters for clinical research of different Swiss Universities.

Management of an emergency unit in Switzerland is actually heterogeneous. Therefore, the authors abstained from descriptions of specific learning objectives.

## Abbreviations used in Swiss Clinical Emergency Medicine Specific Learning Objectives

### Learning Experiences

Learning from practice	LP
Learning from Trainers	LT
Personal Study	PS
Life Support Courses	LS
Skills Laboratory (working in progress)	SL
Work shop (working in progress)	WS

### 1: Generic objectives for Resuscitation

#### Objectives:

- To be able to use a structured prioritised approach to life threatening situations
- To be able to undertake resuscitation procedures in a timely and effective manner
- Understand the indications, pharmacology, contra indications of resuscitation drugs
- Lead and supervise the resuscitation team
- Effectively interact with other specialties to ensure optimal care
- To be supportive of relatives and friends of the patient whilst giving clear information
- Exercise good judgement as to when resuscitation is futile or inappropriate

## 1.1: Resuscitation – Cardiac Arrest / Peri-arrest

**Objectives:** To be able to assess and initiate management of patients presenting with life threatening cardiac diseases using both Basic Life Support and Advanced Life Support techniques.

<b>Problem</b>	<b>Knowledge</b>	<b>Skills / Attitudes</b>	<b>Learning</b>
Cardiac arrest	Familiarity with the ALS algorithms and pharmacology	<b>Skills</b> Perform effective B.L.S. and A.L.S.	LP
Peri arrest arrhythmias	Cardiac arrests in special situations, e.g. hypothermia, trauma, overdose	Rhythm recognition and treatment	LT
	Post arrest management	Safe defibrillation	PS
	Peri-arrest arrhythmias and pharmacology of drugs used	To know when to discontinue resuscitation	LS
		External pacing	SL
		Ensure close liaison with in-patient teams and radiology	

Cardiac Arrest and peri-arrest

## 1.2: Resuscitation – Shock

**Objectives:** To be able to assess and initiate management of patients presenting with shock using both Basic Life Support and Advanced Life Support techniques.

Problem	Knowledge	Skills / Attitudes	Learning
Shocked patient	Identification of the shocked patient and its causes  Role and types of monitoring including CVP, SvO <sub>2</sub> , urine output  Inotropes and vasopressors  Identification of patients for urgent surgical intervention	<b>Skills</b>  To be able to gain peripheral  Intra-osseous techniques  Management of fluid balances and vasoactive drugs  Ensure close liaison with in-patient teams and radiology	LP  LT  PS  LS  SL

Shock

### 1.3: Resuscitation – Coma

**Objectives:** To be able to assess and initiate management of patients presenting with coma using both Basic Life Support and Advanced Life Support techniques.

Problem	Knowledge	Skills / Attitudes	Learning
Comatose patient	<p>Differential diagnosis of the comatose patient.</p> <p>Investigation of the comatose patient (routine blood tests/arterial blood gas/radiology) and initial treatment</p>	<p><b>Skills</b></p> <p>Protection of the comatose patient including spine investigation and immobilisation</p> <p>Systematic history and examination and appropriate diagnostic testing</p> <p>Management of fluid balances and vasoactive drugs</p> <p>Ensure close liaison with in-patient teams and radiology</p>	<p>LP</p> <p>LT</p> <p>PS</p> <p>LS</p> <p>SL</p>

Coma

## 2: Pain Relief and Conscious Sedation

**Objectives:** To safely and effectively relieve pain, the commonest presenting complaint in the Emergency Department, in a timely way. To be able to perform safe conscious sedation.

<b>Problem</b>	<b>Knowledge</b>	<b>Skills / Attitudes</b>	<b>Learning</b>
Pain assessment	Pain scoring	<b>Skills</b> Pain assessment with pain scoring and pain description  Selection and safe prescribing of appropriate analgesic, dosage and route of administration  Work with anaesthesiologists in case of resistant pain	LP
Pain treatment	Cause of pain		LT
	Use of analgesics and be aware of their complications and side effects		PS
	Controlled drug policy		LS
	Use of local anaesthesia and physical measures		SL

Pain management

Problem	Knowledge	Skills / Attitudes	Learning
Conscious sedation in selected patients	<p>Local sedation practice and guidelines</p> <p>Recognition of risk factors for complications (airway, co- morbidity, and drugs/alcohol), monitoring, O<sub>2</sub> therapy, resuscitation equipment</p>	<p><b>Skills</b></p> <p>Airway assessment in order to deal with complications</p> <p>Safe titration of drugs in a monitored environment</p> <p>Prompt recognition of over sedation</p> <p>Work with anaesthesiologist or intensive care physician in case of difficulty</p>	<p>LP</p> <p>LT</p> <p>PS</p> <p>LS</p> <p>SL</p>

Conscious sedation

### 3.1: Major Trauma

**Objectives:** To be able to assess and initiate management of patients presenting with major trauma.

Problem	Knowledge	Skills / Attitudes	Learning
Major trauma	To understand the epidemiology of trauma	Take an ambulance service hand over	LP
Trauma needing life threatening surgery	Understand the importance of mechanisms of injury, trauma scoring and how trauma teams work	Recognise need for, and carry out, life saving procedures using the A, B, C, D, E approach (ATLS principles)	LT PS
Diagnostic testing in major trauma		To provide adequate pain relief  To be skilled in x-ray interpretation and the use of FAST  Ensure a team-based approach with other specialists	LS

Major trauma

### 3.2: Head Injury

**Objectives:** To be able to assess and initiate management of patients presenting with head trauma.

<b>Problem</b>	<b>Knowledge</b>	<b>Skills / Attitudes</b>	<b>Learning</b>
Head injured patient	Stratification of head injured patients	Recognise the major head injury and institute an A, B, C, D, E approach, optimise therapy to avoid secondary brain injury. Identify those patients who will need intubation and ventilation	LP
Head injury needing Neurosurgical referral	Indications for CT/plain radiology		LT
Diagnostic procedures	Identification of patients needing neurosurgical referral	Use history and examination and appropriate investigation	PS
In head injured patients	Intracranial consequences of a head injury	Appropriate and timely involvement of neurosurgery	LS
	Interpretation of Plain radiology/CT	Recognise and treat for minor head injury. Ensure the safe discharge of patients with minor head injury	SL
	Specific guidelines	Perform appropriate management of large scalp laceration	

Head injury

### 3.3: Chest Trauma

**Objectives:** To be able to recognise and treat those patients who have life-threatening or potentially life-threatening chest injuries.

<b>Problem</b>	<b>Knowledge</b>	<b>Skills / Attitudes</b>	<b>Learning</b>
Life-threatening or potentially life-threatening chest injuries.	Causes of life threatening chest trauma	Apply A, B, C, D, E approach (ATLS)	LP
	Indications for CT / early surgical involvement	Needle thoracocentesis	LT
	Appreciate the plain radiology and CT findings of chest injuries	Call appropriately cardiothoracic surgery	PS
		To provide advice and care for those patients with isolated chest wall injuries who are to be discharged	LS SL

Chest trauma

### 3.4: Abdominal and Pelvic Trauma

**Objectives:** To be able to recognise and treat those patients who sustained significant abdominal or pelvic trauma.

Problem	Knowledge	Skills / Attitudes	Learning
Abdominal trauma	Causes of abdominal trauma  Role of imaging, e.g. FAST scanning  Indications for CT / early surgical involvement	<b>Skills</b>  Assess and reassess the traumatic abdomen, initiate treatment and investigation and involve appropriate specialists  Use history  Recognise the influence of injuries elsewhere on abdominal assessment  Be able to undertake a FAST scan  NGT placement	LP  LT  PS  LS  SL

Problem	Knowledge	Skills / Attitudes	Learning
Pelvis trauma	<p>Management of the exsanguinating pelvic fracture including the role of external fixation and arteriography</p> <p>Indications for early interventional radiology</p>	Recognise those patients who need urgent specialist care	<p>LP</p> <p>LT</p> <p>PS</p> <p>LS</p> <p>SL</p>

Abdominal and pelvic trauma

## 4: Minor Trauma and Wound Management

**Objectives:** To be able to assess a wound, provide analgesia to ensure adequate exploration, cleansing and debridement. Decide if wound should be closed or not and select appropriate technique. Recognise those wounds that require specialist referral.

<b>Problem</b>	<b>Knowledge</b>	<b>Skills / Attitudes</b>	<b>Learning</b>
Assessment of minor trauma	Classification and description of wounds	Local anaesthetic techniques	LP
Wound management	Closure techniques: sutures, staples, glue, adhesive strips, delayed primary closure	Recognition of underlying structures	LT
Specialist referral	Wound dressings/splintage	Ensure thorough mechanical wound cleansing and removal of foreign bodies	PS
	Special wounds: puncture, bites, wound infections, degloving, foreign bodies	Ensure the best conditions for wound management i.e. appropriate lighting, analgesia, and equipment	SL
	Tetanus immunisation schedules	Correct closure technique	
		Ensure close liaison with in-patient teams and radiology in case of damage of underlying structures and those patients at risk of wound infection / delayed healing. This approach allows appropriate follow up	

Wound management

## 5: Generic objectives for musculoskeletal conditions

### Objectives:

- To be able to take an appropriate history, examination, investigation and initiate treatment of patients presenting with musculoskeletal pathology. Emergency Physicians should be aware of the predicted clinical course and specific complications for these conditions
- Recognise those that need further in- patient/outpatient care, the role of physiotherapy and those who can be discharged directly from the Emergency Department

## 6: Rheumatology

**Objectives:** To be able to assess and initiate management of patients presenting with rheumatological problems, e.g. exacerbations of neck pain, shoulder pain, back pain. Specifically to be able to examine all joints, and interpret signs of rheumatological disease. See below for specific problems.

Problem	Knowledge	Skills / Attitudes	Learning
Acute monoarthritis	Causes and diseases	Initiate investigations  To explore the differential diagnosis and specifically to identify those patients who may have septic arthritis  Identify those patients who require admission	LP  LT  PS
Acute low back pain	See Spinal Injury above  Guidelines for the treatment and investigation of acute low back pain	Initiate investigations to explore diagnoses  Identify when to consult with other specialties e.g. orthopaedics /neurosurgery/rheumatology  Understand when and which radiology is required.	LP  LT  PS

Problem	Knowledge	Skills / Attitudes	Learning
Other topics	Acute polyarthritis and crystal arthropathies  Osteoarthritis  Rheumatoid arthritis  Tendonitis / Tenosynovitis  Bursitis  Reflex sympathetic dystrophy	Identify when to consult with other specialties	LP  LT

Rheumatology

## 7: Vascular Emergencies

**Objectives:** To be able to under-take a history and examination focussed on the vascular system and identify those conditions that compromise organ or extremities.

<b>Problem</b>	<b>Knowledge</b>	<b>Skills / Attitudes</b>	<b>Learning</b>
Arterial disease	The symptoms, signs, presentation and causes of peripheral and mesenteric ischaemia, abdominal and thoracic aortic aneurysms and aortic dissection	Resuscitate, perform appropriate investigations  Initiate timely appropriate imaging and referral to appropriate specialist	LP  LT  PS
	Traumatic vascular injury		

Arterial emergencies

<b>Problem</b>	<b>Knowledge</b>	<b>Skills / Attitudes</b>	<b>Learning</b>
Venous disease	Investigation and management of DVT including role of risk stratification, d-dimers and ultrasound	Focused clinical examination to establish most likely diagnosis of painful / swollen calf	LP  LT  PS
	Proximal vein thrombosis		

Venous emergencies

## 8. Abdominal pain and intestinal bleeding

**Objectives:** To be able to take a full history and examination, elicit relevant physical signs, commence resuscitation and investigation. To be able to undertake appropriate history and examination and initiate appropriate treatment for patients presenting haematemesis. To be able to undertake appropriate history and examination to establish diagnosis and initiate appropriate treatment with patients presenting anal or rectal bleeding.

Problem	Knowledge	Skills / Attitudes	Learning
Abdominal pain	Causes of acute abdominal pain	<p>To have an A, B, C, D, E approach ensuring effective fluid resuscitation, pain relief and appropriate use of a nasogastric tube and antibiotics</p> <p>Identify those who need resuscitation and urgent surgery</p> <p>Those that require admission and those who may be safely discharged</p> <p>Investigation using plain radiology, CT, ultrasound and blood tests</p>	<p>LP</p> <p>LT</p> <p>PS</p>

Abdominal pain

<b>Problem</b>	<b>Knowledge</b>	<b>Skills / Attitudes</b>	<b>Learning</b>
Intestinal bleeding	Causes  Indications for blood administration, monitoring of vascular filling, urgent endoscopy and surgical involvement  Specific knowledge of the management of bleeding oesophageal varices	Recognition of shock  IV access in the shocked patient  Coordination of teams	LP  LT  PS

Haematemesis

<b>Problem</b>	<b>Knowledge</b>	<b>Skills / Attitudes</b>	<b>Learning</b>
Anal and rectal diseases	Causes of anal pain and rectal bleeding  Options for appropriate and adequate analgesia	Identify those patients who need admission and those who can be appropriately managed as an outpatient  Recognition and treatment of shock	LP  LT  PS

Anal pain and rectal bleeding

## 9: Urology

**Objectives:** To be able to assess and to initiate management of patients presenting urological problems. To be able to recognise emergent situations.

<b>Problem</b>	<b>Knowledge</b>	<b>Skills / Attitudes</b>	<b>Learning</b>
Acute urinary retention	Recognise patients with acute urinary retention, relieve symptoms and establish diagnosis	Urinary catheterisation	LP LT PS
Acute scrotal pain	Common cause of scrotal pain	Recognition that testicular torsion is an emergency and ensuring timely referral	LP LT PS

Urology

## 10: Eye problems

**Objectives:** To be able to evaluate those patients presenting with red or painful eyes and those suffering sudden visual loss. To be able to assess visual acuity and undertake ophthalmoscopy and slit lamp examination. To understand the pharmacology of ocular drugs.

Problem	Knowledge	Skills / Attitudes	Learning
Red eye	Causes of red eyes	<p>To be able to diagnose, recognise associations</p> <p>To provide immediate flushing for those patients who have suffered ocular chemical burns</p>	<p>LP</p> <p>LT</p> <p>PS</p>

Eye conditions

## 11: ENT and Dental Emergencies

**Objectives:** To be able to undertake appropriate history, examination and investigation of patients presenting with ENT or dental problems, ensuring appropriate treatment and referral.

<b>Problem</b>	<b>Knowledge</b>	<b>Skills / Attitudes</b>	<b>Learning</b>
Painful ear	Causes	Prescribe appropriately  Identify those who need ENT referral  Removal of foreign bodies  Aural toilet	LP  LT  PS
Epistaxis	Common causes including trauma and medication	Undertake anterior nasal packing / use nasal tampon	LP LT PS
Sore throat	Causes	To recognise underlying pathologies and the risk to the airway and involve appropriate specialist in a timely fashion	LP LT PS Work shop

ENT conditions

Problem	Knowledge	Skills / Attitudes	Learning
Dental emergencies	Causes	<p>To provide appropriate analgesia and antibiotic therapy for patients with dental abscess</p> <p>Identify those that require immediate referral</p>	<p>LP</p> <p>LT</p> <p>PS</p>

Dental emergencies

## 12: Chest Pain and Cardiology

**Objectives:** To undertake a structured approach to the history, examination and investigation of patients presenting with symptoms that may be due to a cardiological cause. To be able to interpret the results of investigations such as ECG, chest x-ray and cardiac enzyme testing.

<b>Problem</b>	<b>Knowledge</b>	<b>Skills / Attitudes</b>	<b>Learning</b>
Chest pain	Causes	<p>A, B, C, D, E approach</p> <p>Appropriate monitoring, treatment and investigation and be familiar with local guidelines for the management of patients with chest pain of possible cardiac origin and pulmonary embolism</p> <p>To be able to risk stratify patients with chest pain and to be able to follow appropriate departmental pathways</p>	<p>LP</p> <p>LT</p> <p>PS</p> <p>LS</p> <p>SL</p>
Acute coronary syndromes	<p>Understand stable and unstable angina and myocardial infarction. (ACS)</p> <p>Recognise ECG changes related to ACS. Causes of ST elevation in the</p>	<p>Recognise the need for urgent assessment and prompt treatment with percutaneous coronary intervention when indicated</p> <p>To identify and treat complications such as</p>	<p>LP</p> <p>LT</p> <p>PS</p>

Problem	Knowledge	Skills / Attitudes	Learning
	<p>absence of myocardial infarction</p> <p>Indications for interventional cardiology. Indications, contra-indications and complications of thrombolysis</p> <p>Management of left ventricular failure in the setting of myocardial infarction</p> <p>Pharmacology of cardiac drugs</p>	arrhythmias, pulmonary oedema and hypotension	LS
Patients presenting with syncope	<p>Causes</p> <p>Risk stratification and appropriate diagnostic testing</p>	To be able to identify those patients that require admission, those that need out patient follow up and those that can be safely discharged	LP LT PS
Patients presenting in heart failure	<p>Causes, precipitating factors and prognosis</p> <p>Drugs to use, contraindications and side effects</p>	Initiate investigations to identify the cause	LP LT PS LS

Problem	Knowledge	Skills / Attitudes	Learning
Severe haemodynamic compromise	<p>Cardiogenic shock, secondary to myocardial infarction, massive PE, aortic dissection, valve rupture e</p> <p>Emergency imaging including echocardiogram and CT</p> <p>Role of angioplasty / surgery / thrombolysis</p> <p>Use of inotropes</p>	<p>Recognise the need for rapid assessment</p> <p>Initiate investigation and treatment</p> <p>Liaise with appropriate specialists and co-ordinate investigation</p>	<p>LP</p> <p>LT</p> <p>PS</p> <p>LS</p>
Arrhythmias	<p>ECG recognition of narrow and broad complex tachycardias and bradycardias. Indications for pacing</p> <p>Indications, contraindication and side effects of anti-arrhythmic drugs</p> <p>ALS guidelines</p>	<p>To recognise and correctly identify arrhythmias</p> <p>Ability to perform carotid sinus massage</p> <p>Perform DC cardioversion</p> <p>Manage arrhythmias according to specific guidelines</p> <p>Use of external pacing equipment</p>	<p>LP</p> <p>LT</p> <p>PS</p> <p>LS</p>

## 13: Respiratory Medicine

**Objectives:** To be able to undertake a history and clinical examination of the respiratory system and interpret the clinical signs.

Application of the A,B, C, D, E approach. Detailed knowledge of investigations of the respiratory system including interpretation of blood gases and chest x-ray. Principles of invasive and non-invasive ventilation. Principles of oxygen therapy.

Problem	Knowledge	Skills / Attitudes	Learning
Asthma	Causes	To be able to recognise acute severe asthma and institute emergency treatment	LP
	Guidelines		LT
	Detailed knowledge of drug therapy	To be able to recognise early those patients with life threatening asthma who may require ventilation	PS
		To be able to organise safe discharge of patients suffering from an acute asthma exacerbation	LS
Spontaneous pneumothorax	Causes	To be able to aspirate a pneumothorax and insert a intercostal drain	LP
	Specific Guidelines		LT PS SL
Pulmonary embolism	Causes, differential diagnosis and risk factors.	Recognise the need for urgent investigation (ECG, blood gas, blood analysis including d-dimere, echocardiography, CTPA) and treatment	LS
	Specific guidelines		LT

Problem	Knowledge	Skills / Attitudes	Learning
	Severity stratification, investigation and initial treatment including anticoagulation, thrombolysis* and thromboembolectomy*		PS LS
COPD	Guidelines for the management of acute exacerbations of COPD  Oxygen therapy, drug therapy	To be able to initiate appropriate therapy  Recognise and treat precipitating factors  Identify those who can be safely discharged  Assessment and timely initiation of non invasive ventilation in appropriate patients. Recognition of those patients who need intubation and ventilation	LP  LT  PS  SL
Pneumonia	Assessment and management of community acquired and nosocomial pneumonia according to guidelines  Recognition of the severity of pneumonia  Causes of pneumonia and	To be able to undertake appropriate investigation  To be able to record the markers of severity of pneumonia. Identify co-morbidity and associated septicaemia  Identify those patients needing ventilation and	LP  LT  PS

Problem	Knowledge	Skills / Attitudes	Learning
	appropriate antibiotic therapy	intensive care  To identify those patients suitable for community care	
Respiratory failure	Causes and appropriate investigations  Indications for ventilation	Recognition of those patients in respiratory failure  Initiate therapy, including oxygen and bag valve mask ventilation if needed. Identify those that need non-invasive ventilation/invasive ventilation	LP LT PS LS
Other topics	Acute lung injury Pleural effusion Foreign body inhalation Haemoptysis Presentation of TB, neoplasia and lung abscess Physical and chemical irritants Non cardiogenic pulmonary oedema Pneumomediastinum Adult cystic fibrosis		LP  LT  PS

## 14: Neurological Emergencies and Headache

**Objectives:** To be able to undertake a full neurological history and examination and interpret the clinical findings in the Emergency Department setting. To be able to undertake appropriate investigation, and manage those with life-threatening neurological emergencies. See below for specific conditions.

Problem	Knowledge	Skills / Attitudes	Learning
Headache	Causes	<p>Apply A, B, C, D, E approach. Initiate investigations to explore diagnosis. Appropriate use of CT, LP</p> <p>To be able to identify unusual headaches and liaise with Radiology / Neurology / Neuro-surgery</p> <p>To be able to identify after appropriate investigation those who are suffering from benign headache and therefore suitable to be discharged</p>	<p>LP</p> <p>LT</p> <p>PS</p>
Status epilepticus	<p>Causes and complications</p> <p>Follow algorithm in status epilepticus and be aware of complications</p> <p>Diagnosis of pseudo-seizures</p>	<p>A, B, C, D, E approach</p> <p>Initial focus on the remediable causes, but ability to retain a broader and appropriate investigation</p> <p>Knowledge and appropriate use of pharmacological agents</p>	<p>LP</p> <p>LT</p> <p>PS</p> <p>LS</p>

<b>Problem</b>	<b>Knowledge</b>	<b>Skills / Attitudes</b>	<b>Learning</b>
Meningitis, encephalitis, brain abscess	Clinical features, differential diagnosis, antiviral and antimicrobial therapy, complications	Urgent antibiotic treatment  Appropriate investigations: CT, LP	LP LT PS
Cerebrovascular disease	Guidelines for the Management of Stroke and TIA  Causes	Recognise the value of Stroke Units  Ensure timely referral for further investigation of those patients suffering a TIA	LP LT PS

Neurological Emergencies

## 15: Hepatic Disorders

**Objectives:** To be able to undertake focussed history and examination of those patients presenting with symptoms and signs related to underlying liver disease, to establish differential diagnosis and to initiate treatment.

<b>Problem</b>	<b>Knowledge</b>	<b>Skills / Attitudes</b>	<b>Learning</b>
Liver failure	Causes and precipitants  Specific complications including encephalopathy, sepsis, fluid and electrolyte balance, renal impairment, hypoglycaemia, coagulopathy, bleeding and malnutrition	Initiative investigations to establish diagnosis and cause including interpretation of liver function tests  Avoid precipitating/exacerbating drugs  Recognise the need to discuss with specialists	LP  LT  PS
Others	Spontaneous bacterial peritonitis Jaundice Hepatorenal syndrome Portal hypertension	Initiate appropriate investigations and treatment  Initiate appropriate specific care	LP  LT  PS

Hepatic disorders

## 16: Toxicology

**Objectives:** To be able to assess and initiate the management of patients presenting with toxicological problems. To be able to recognise common toxidromes, understand the role of antidotes. To be able to access poisons information and understand the legal, psychiatric and social aspects of overdose. To understand the pharmacology of common poisons.

<b>Problem</b>	<b>Knowledge</b>	<b>Skills / Attitudes</b>	<b>Learning</b>
Poisoning and drug overdose	Causes  Initial management of common poisonings  The role of drug testing / screening	Assess and provide emergency care  Use poisons information and knows the role of charcoal and alkalisation and antidotes  Identify the psychiatric aspects of overdose	LP  LT  PS
Illicit drugs	Psychological and physiological effects of opioids, amphetamines, ecstasy, cocaine and alcohol  To understand addiction, dependence and withdrawal	Recognising illicit drug use, acquire accurate history, and be able to use poisons information services  Initiate appropriate follow-up including psychiatric and rehabilitation services	LP  LT  PS
Others	Ingestion of mushrooms and berries		LP  LT  PS

Toxicology

## 17: Acid Base and Ventilatory disorders

**Objectives:** To be able to interpret arterial and venous blood gases and establish the diagnosis or differential diagnosis. To understand how blood gas analysis can be used to determine treatment and monitoring.

Problem	Knowledge	Skills / Attitudes	Learning
Arterial and venous blood gas analysis	Blood concentration of H <sup>+</sup> , O <sub>2</sub> , CO <sub>2</sub> and base excess  Anion and osmolar gap Carbon monoxide poisoning Methhaemoglobinaemia	Take arterial blood gas from the radial or femoral artery safely  Interpretation of arterial and venous blood gas results: metabolic (including lactic) acidosis, acute and chronic respiratory acidosis, respiratory alkalosis and metabolic alkalosis and combination of them	LP  LT  PS

Acid Base disorders

## 18: Fluid and Electrolytes

**Objectives:** To understand the common electrolyte and fluid compartment changes and manage them safely.

Problem	Knowledge	Skills / Attitudes	Learning
Electrolyte abnormalities  Fluid balance	Knowledge of volume and composition of the different fluid compartments  Know the constituents of common crystalloid and colloid solutions  Understand the common electrolyte fluid disturbances and how they are managed	Use of appropriate type of fluid and volume  To be able to treat safely the common electrolyte disturbances	LP  LT  PS  LS

Electrolytes

## 19: Renal Disease

**Objectives:** To be able to undertake history and examination, establish diagnosis, differential diagnosis and initiate management of common renal emergencies.

<b>Problem</b>	<b>Knowledge</b>	<b>Skills / Attitudes</b>	<b>Learning</b>
Acute renal failure	Causes and severity	Identify pre-renal uraemia, causes of oliguria, strategies to treat reversible causes of acute renal failure Use clinical findings and laboratory results to detect and treat pre renal uraemia Liaise with renal and urological physicians	LP  LT  PS
Urinary tract infections	Causes and differences between simple and complicated urinary tract infections Appropriate antimicrobial agents	Identify those patients who require further investigation, admission, and those who require out patient follow up. Interpret urine dipstick, microscopy and culture results. Select appropriate antimicrobial agents	LP  LT  PS
Patients with renal replacement therapy	Recognise the complications of renal transplant patients and those on peritoneal and haemodialysis.	Recognition of life threatening conditions in these patients e.g. hyperkalaemia Identify those who need emergent dialysis and liaise with renal physicians	LP  LT PS
Others	Rhabdomyolysis, haematuria,	Initiate appropriate specific care	LP

<b>Problem</b>	<b>Knowledge</b>	<b>Skills / Attitudes</b>	<b>Learning</b>
	proteinuria		LT, PS

Renal Medicine

## 20: Diabetes and Endocrinology

**Objectives:** To be able to assess and initiate management of patients presenting with diabetic and the other common endocrinology emergencies.

<b>Problem</b>	<b>Knowledge</b>	<b>Skills / Attitudes</b>	<b>Learning</b>
Diabetic ketoacidosis	Precipitating causes and undertake appropriate investigations Protocols for the management of diabetic ketoacidosis	Prescribe fluids, insulin and potassium appropriately  Reviewing and testing these patients regularly	LP LT PS
Hyperosmolar non-ketotic coma	Precipitating causes	Prescribe fluids, insulin and potassium appropriately Reviewing and testing these patients regularly	LP LT, PS
Hypoglycaemia	Clinical features and precipitating causes	Measure blood glucose at the bedside Administer rapidly glucose	LP LT, PS
Acute adreno cortical insufficiency	Causes of insufficiency	Identify the types and causes of insufficiency and recognise an adrenal crisis Initiate appropriate investigations and treatment	LP LT PS
Others	Thyroid storm and hypothyroid crisis Phaeo-chromocytoma Pituitary failure Diabetes Insipidus		LP LT PS

## 21: Haematology and Oncology

**Objectives:** By taking appropriate history, examination and investigation identify the following common haematological and oncological emergencies.

<b>Problem</b>	<b>Knowledge</b>	<b>Skills / Attitudes</b>	<b>Learning</b>
Haemoglobinopathies	Causes, clinical features and precipitating circumstances  Complications	Initiate appropriate investigations and treatments  Manage fluid balance and analgesia  Liaison with haematology and oncology	LP  LT  PS
Disseminated intravascular coagulation	Underlying causes and diagnostic criteria	Initiate emergency treatment Close liaison with haematology  Initiate investigations to identify the underlying cause	LP LT PS
Coagulopathies and thrombopathies	Complications of anticoagulants I.T.P.	Initiate appropriate investigations and treatments	LP LT PS

Haematology

<b>Problem</b>	<b>Knowledge</b>	<b>Skills / Attitudes</b>	<b>Learning</b>
Complications related to local tumour progression	Upper airway obstruction Malignant pericardial effusion SVC syndrome Malignant pleural effusion. ↑ ICP Acute spinal cord compression	To be able to recognise and provide initial emergency management  Involve specialists	LP LT PS
Biochemical complications of malignancy	Hypercalcaemia of malignancy Inappropriate ADH Adrenocortical insufficiency	Test for, diagnose and initiate treatment for these conditions.	LP LT PS
Complications related to myelosuppression	Risk of myelosuppression	To identify those patients at risk and to take appropriate microbiological samples Initiate appropriate antibiotics Recognise need for oncological involvement	LP LT PS
Others	Paraneoplastic syndromes  Care of the terminally ill*		LP LT PS

## 22: Infectious Diseases, Sepsis and Sexually Transmitted Disease

**Objectives:** To be able to identify after complete history, examination and investigation those patients suffering from infectious diseases, sepsis and sexually transmitted disease.

<b>Problem</b>	<b>Knowledge</b>	<b>Skills / Attitudes</b>	<b>Learning</b>
Sepsis	Causes and definition of sepsis, severe sepsis, septic shock and systemic inflammatory response syndrome  Complications of sepsis  Typical sites of origin and microbiology	Assess severity  Goal directed therapy in sick patients with presumed meningitis, toxic shock syndrome and severe sepsis / shock  Appropriate use of vasopressors and fluids. Selection of the appropriate antibiotic  Select appropriate investigations	LP  LT  PS
Immunocompromised hosts.	To be able to identify those patients who are immunocompromised and have atypical presentation of infection	High index of suspicion of infection  To liaise with the appropriate specialists regarding investigation and treatment	LP  LT  PS
Needlestick injury and other accidental contacts with	Understand the hospital policy	To identify those patients who need prophylactic treatment (HIV, hepatitis B, Tetanus)  Selection of appropriate investigations and treatments	LP  LT  PS

<b>Problem</b>	<b>Knowledge</b>	<b>Skills / Attitudes</b>	<b>Learning</b>
injected products		in coordination with specialists	
Fever from abroad	Causes, especially malaria, typhoid, TB and sexually transmitted diseases	Take a travel history and check vaccination/prophylaxis especially compliance Select appropriate investigations including serial testing for malarial parasites Initiate appropriate specialised care	LP LT PS
Vaccination	Importance of vaccination state	Take a history and check vaccination Initiate appropriate vaccination	LP LT, PS
Sexually transmitted disease including HIV	Causes, presentations and complications	Appropriate investigation and referral to specialist  Health care advice concealing	LP LT PS

Infectious diseases

## 23: Dermatology

**Objectives:** To be able to assess patients with life-threatening dermatological problems. To be able to describe dermatological lesions and recognise dermatological emergencies.

<b>Problem</b>	<b>Knowledge</b>	<b>Skills / Attitudes</b>	<b>Learning</b>
Allergic skin diseases	Causes and complications  Guidelines for severe allergic reactions	Assess airway patency and manage upper airway obstruction and initiate rapid treatment  Safely identify those who are suitable for discharge and those who need further observation  Recognise the importance of a follow up (allergy clinic) and the role of the EpiPen	LP LT PS LS Work shop
Infectious skin diseases	Causes and complications Appropriate antibiotics.  Knowledge of associated underlying problems	Initiate appropriate antibiotic therapy  To identify those who have abscess formation and organise drainage  Identify those patients who require admission, those who may be managed as an outpatient	LP LT PS Work shop

Problem	Knowledge	Skills / Attitudes	Learning
Others	Viral xantheams, tick borne transmitted diseases	Initiate appropriate investigations and treatments  Knowledge of the guidelides for the postexposal porphylaxis  Initiate appropriate specialised care	LP LT PS Work shop

Dermatology

## 24: Psychiatry

**Objectives:** To be able to assess patients with psychiatric problems. To be able to recognise psychiatric emergencies.

<b>Problem</b>	<b>Knowledge</b>	<b>Skills / Attitudes</b>	<b>Learning</b>
Deliberate self-harm/parasuicide	Guidelines for deliberate self-harm Risk factors for suicide	Identification of co-morbid psychiatric problems Appropriate referral and discharge. Liaison with psychiatric services	LP LT PS
Acute psychosis	Causes including organic Management	Initial management including drug indications/contraindications Appropriate referral and discharge. Liaison with psychiatric services	LP LT PS
Alcohol and drug / substance related problems (intoxication, dependence)	See Toxicology section above	Identification of those who are alcohol and drug / substance dependant Identification for those patients warranting admission. Recognition of associated conditions, e.g. head injury. Involve other specialties e.g. psychiatry, social services, General Practitioner, rehabilitation services	LP LT PS
Alcohol and drug withdrawal syndrome	Identify this syndrome and specific complications including self-damage	Initiate appropriate drug treatment	LP LT

Problem	Knowledge	Skills / Attitudes	Learning
			PS
Other topics	Violent behaviour (domestic, sexual assault, staff safety, restraint) Dementia – assessment and causes Difficult patient (malingering, personality disorder, frequent attender)	Management including de-escalation techniques  Working with other agencies	LP LT PS

Psychiatry

## 25: Legal Aspects of Emergency Medicine and Discharge Policy

**Objectives:** To be familiar and compliant with the legal aspects of Emergency Medicine.

Problem	Knowledge	Skills / Attitudes	Learning
Legal aspects of Emergency Medicine	Consent, capacity to consent, refusal Forensic documentation: drug and alcohol testing, domestic violence, sexual assault, child abuse	Work for the patient's interest as central  Appropriate management including consultation of Seniors, security forces, hospital legal departments and cantonal authorities  Initiate appropriate specialised support	LP  LT  PS

Legal aspects