

One per person, issued at registration and kept in the top pocket. **The card is not a reference to read during an emergency — it is what you rehearsed until you did not need it.** Print duplex with page 2 on the reverse.

LIMA PULSE · DAY 2

A · AIRWAY

Is the airway patent?

ASSESS

- Can they **speak**? A sentence answers A
- **Stridor** · gurgling · snoring
- Secretions, vomit, blood, swelling
- See-saw movement · reduced consciousness

TREAT

- Position · head tilt-chin lift · **jaw thrust if trauma**
- Suction under direct vision
- Adjunct — trained staff only
- Oxygen · call for advanced airway help

SAY IT:

"A — airway patent, talking."

Name _____

LIMA PULSE · DAY 2

B · BREATHING

Is ventilation adequate?

ASSESS

- **Count the rate — a full minute**
- Work of breathing · accessory muscles
- Symmetry · air entry · auscultate
- SpO₂ · trachea · neck veins

TREAT — OXYGEN IS A DRUG

- **94-98%** usual acute target
- **88-92%** if hypercapnic risk known
- Asthma: **only if SpO₂ <92%**, upper limit **95%** (GINA 2026)
- Bronchodilator · assist ventilation · treat the cause

RED FLAG:

RR ≥25 or ≤8 scores 3 on NEWS2 alone.

Role _____

LIMA PULSE · DAY 2

C · CIRCULATION

Is the patient perfusing?

ASSESS

- Rate · rhythm · pulse quality
- **Capillary refill** · skin temperature and colour
- Bleeding — obvious *and* occult
- BP · ECG · 12-lead · urine output

TREAT

- **Stop the bleeding** — pressure, packing, tourniquet
- IV/IO access · bloods with the first cannula
- **Cause-specific** fluid, then reassess
- Treat the rhythm if the rhythm is the problem

A NORMAL BLOOD PRESSURE DOES NOT EXCLUDE SHOCK.

Date _____

LIMA PULSE · DAY 2

D · E · LOOP

Brain, glucose, exposure — then start again

D · DISABILITY

- **ACVPU** · pupils · focal signs
- **GLUCOSE — every altered conscious level**
- Seizure? Start the timer.

E · EXPOSURE

- Temperature · rash · bleeding · patches · wounds
- Dignity · prevent heat loss · SAMPLE history

THEN GO BACK TO A.

ABCDE is a loop, not a checklist.

Centre _____

Print on the reverse of page 1, flipping on the **short edge**. Check one card before printing the whole set.

STOP TRIAGING · START ABCDE

RED FLAGS

Any one of these ends the triage

- Airway obstruction or **stridor**
- Severe respiratory distress · cyanosis
- Cannot speak in sentences
- Shock or markedly poor perfusion
- Major haemorrhage
- Altered consciousness · active seizure
- Acute stroke features
- Suspected ACS with instability
- Anaphylaxis · major trauma
- Rapidly deteriorating observations

A red flag is not a reason to triage

FASTER

. It is a reason to

STOP

.

ESCALATION THRESHOLDS

NEWS2

RCP escalation guidance — adapt to the Lima / Oman MOH route

- **0** — routine monitoring per local policy
- **1-4** — registered nurse assesses, decides escalation
- **3 in any single parameter** — urgent clinician review
- **5-6 — key threshold.** Urgent review by a clinician competent in acute illness
- **≥7** — emergency assessment, continuous monitoring, senior clinician, consider transfer

CLINICAL CONCERN OVERRIDES A REASSURING SCORE.

Escalate anyway and say why.

RECOGNITION WITHOUT ESCALATION IS INCOMPLETE

SBAR

The call that follows the assessment

- **S** — who you are, where, who the patient is, what is happening now
- **B** — relevant history, briefly
- **A** — ABCDE findings, observations, NEWS2, response to treatment
- **R** — **exactly what you need, and by when**

"I am concerned this patient is critically ill because..."

I NEED YOU HERE NOW.

"

ONE CHANGE AT THE FRONT

<C>ABCDE

Trauma — catastrophic haemorrhage first

- **<C>** Catastrophic external bleeding — **before the airway**
- Direct pressure, firm and sustained
- Limb bleeding not controlled → **tourniquet, high and tight, time written on it**
- Pelvic binder at the greater trochanters, if held and you are trained
- Then A · B · C · D · E as taught

Blood hides where pressure cannot reach: chest · abdomen · pelvis · long bones · the floor.

The clinical standard below is the same for everyone in the team. What differs is who performs each part of it. Doses are the guideline reference figures — use them to **check** a prescription and to prepare accurately. **Prescribing authority and administration rights follow the Lima job descriptions and Oman MOH medication policy.**

1

Convulsive status epilepticus

A generalised convulsive seizure lasting 5 minutes or longer

START THE TIMER
first action

SITUATION	DRUG	DOSE AND RATE
IV access available	Diazepam IV	DOSE 10 mg — or 5 mg if elderly or under 50 kg RATE slowly, maximum 5 mg per minute
No IV access	Midazolam buccal	DOSE 10 mg — or 5 mg if elderly or under 50 kg

TWO DOSES. THEN STOP. One repeat at **10 minutes** if the seizure continues. Maximum **two** benzodiazepine doses. Failure after two doses is established status epilepticus and needs a second-line agent — **Lima holds none. At that point the treatment is the transfer.**

Benzodiazepines cause dose-dependent depression of consciousness and respiratory drive — **including after the seizure stops.** Keep monitoring; be ready to support ventilation. *NICE NG217 first-line for adults in hospital is IV lorazepam 4 mg, which Lima does not hold; this pathway follows NHS GGC.*

2

Hypoglycaemia

Check the glucose in every patient with an altered conscious level

> 4.0 mmol/L
target, and recovered

SITUATION	TREATMENT
Conscious, safe to swallow	15-20 g rapid-acting carbohydrate · recheck at 10-15 min · repeat up to 3 times · then 20 g long-acting carbohydrate
Unconscious, fitting, or unable to swallow	Glucose 20% — 100 mL IV over ~15 min or Glucose 10% — 200 mL IV over ~15 min Both = 20 g. Recheck at 10 minutes
No IV access	Glucagon 1 mg IM — less effective in malnutrition, starvation, alcohol excess, liver disease · no second dose · needs 40 g follow-on carbohydrate

GLUCOSE 50% — NOT THE FIRST CHOICE. JBDS no longer recommends 50% for IV use. It is strongly hypertonic (≈2522 mOsm/L against 506 for 10%) with real potential for **tissue damage and skin necrosis on extravasation.** We stock it; use 20% or 10% first, and if you do use 50%, say so in the handover.

Do not omit a due insulin dose. After a sulfonylurea or long-acting insulin the risk persists **24-36 hours** — observe or transfer, do not discharge.

Antimicrobial selection is a prescriber decision, made from the suspected source, severity, allergy history and resistance patterns. The doses below are the guideline reference figures for checking and preparing. Who prescribes and who administers follows Lima job descriptions and Oman MOH medication policy.

3

The three IV antimicrobials we hold

Selection is a prescriber decision

WHO AWaRe classification

AGENT	AWARE	REFERENCE ADULT IV DOSE	ITS REAL ROLE
Ceftriaxone	Watch	1–2 g once daily (severe at the 2 g end), infuse over 30 min. Meningitis: 2 g every 12 h	The backbone of almost every regimen here
Metronidazole	Access	500 mg every 8 h (common international regimen). Halve in severe liver impairment	Anaerobic cover — only with an anaerobic source
Ampicillin	Access	150–200 mg/kg/day in divided doses. Meningitis: 2 g every 4 h	Listeria (over 50, pregnant, immunocompromised) and enterococci

METRONIDAZOLE IS NOT A HARMLESS ADD-ON. Surviving Sepsis 2026 suggests **against** empiric anaerobic cover with no anaerobic risk factor — observational data showed **increased mortality**. Add it for intra-abdominal, gynaecological and obstetric, necrotising soft-tissue, head and neck, empyema and CNS abscess sources. **Not** for undifferentiated sepsis, ordinary pneumonia or pyelonephritis.

CEFTRIAXONE PRECIPITATES WITH CALCIUM. Never reconstitute, dilute, co-infuse or Y-site it with **Hartmann's or Ringer's**. Use **0.9% sodium chloride**. In a resuscitation running one or two lines, this *will* happen unless the team is trained for it.

WHAT WE CANNOT COVER. No aminoglycoside, macrolide, antipseudomonal, MRSA cover or antifungal. The WHO AWaRe first-choice regimen **cannot be completed here** for severe community-acquired pneumonia, severe pyelonephritis, sepsis of unknown source, or neutropenic sepsis. **“We gave the antibiotic” is not the same as “the pathogen is covered.”**

Allergy: a rash with penicillin does not bar ceftriaxone. **Anaphylaxis, angioedema or a severe cutaneous reaction to any beta-lactam — the drug is not given here.** Resuscitate, transfer, hand over the allergy history explicitly.

4

Who does what

The standard does not change. Who performs each part of it does.

INTERVENTION	LED BY	THE REST OF THE TEAM
Airway management and adjuncts	Doctors	Positioning · suction · oxygen · bag-mask within training · call early
Synchronised cardioversion and pacing	Doctors	Recognise instability · attach monitor and pads · prepare the defibrillator · call
Antimicrobial selection	Prescriber	Prepare and give what is prescribed · check allergy and line compatibility · record the exact time

This page is printed blank on purpose. These names, numbers and times belong to this centre — they are not something a lecture can supply. Fill it in as a room, photograph it, and fix it beside the emergency trolley. **A pathway nobody can dial at two in the morning is not a pathway.**

1

The call list

Name the person, not the department

LAST COLUMN
is the clinical one

WHEN YOU NEED...	WHO EXACTLY	HOW YOU REACH THEM	REALISTIC TIME TO ARRIVE
A second pair of hands, now			
The doctor on duty			
The doctor out of hours			
Ambulance — road			
Ambulance — marine			
The receiving hospital			
Controlled-drug access			

WHY THE LAST COLUMN MATTERS. Transfer time is a clinical variable here, not an administrative one. If help is forty minutes away, the decision to call is taken forty minutes earlier — which means it is taken on the **trend**, before the numbers are frankly abnormal. **Distance is the reason this whole day is about recognising early.**

2

Three questions that need a written answer

If the answer is “it depends who is on”, that is a gap — record it in the Corrective Action Register

QUESTION	WRITTEN ANSWER	WHERE IT IS RECORDED
May a nurse give the first IM adrenaline dose in anaphylaxis before a prescription?		
Who may give buccal midazolam out of hours?		
Who holds the controlled-drug key at 02:00?		

The clinical standard taught on Day 2 does not depend on these answers — a patient in anaphylaxis needs intramuscular adrenaline immediately regardless of who is standing there. What these answers decide is **who performs which part of it**, and where authority stops, the task becomes **getting the person who holds it, faster**. That is an action, not a delay.

Royal College of Physicians **National Early Warning Score (NEWS) 2**. Score logic reproduced unaltered. Validated in adults ≥16 years. **Not** for use in pregnancy or in children. **If the patient is obviously critically ill — do ABCDE first, score afterwards.**

PARAMETER	3	2	1	0	1	2	3
Respiration rate (/min)	≤8	–	9–11	12–20	–	21–24	≥25
SpO ₂ — Scale 1 (%)	≤91	92–93	94–95	≥96	–	–	–
SpO ₂ — Scale 2 (%) target 88–92% · confirmed hypercapnic risk only	≤83	84–85	86–87	88–92 or ≥93 on air	93–94 on O ₂	95–96 on O ₂	≥97 on O ₂
Air or oxygen	–	Oxygen	–	Air	–	–	–
Systolic blood pressure (mmHg)	≤90	91–100	101–110	111–219	–	–	≥220
Pulse (/min)	≤40	–	41–50	51–90	91–110	111–130	≥131
Consciousness (ACVPU)	–	–	–	Alert	–	–	C V P U
Temperature (°C)	≤35.0	–	35.1–36.0	36.1–38.0	38.1–39.0	≥39.1	–

Response thresholds. 0 routine · 1-4 registered nurse assesses and decides escalation · 3 in any single parameter urgent clinician review · 5-6 **KEY THRESHOLD** — urgent review by a clinician competent in acute illness · ≥7 emergency assessment, continuous monitoring, senior clinician, consider transfer.

Who is called, by what method and within what timeframe follows the **Lima Health Centre / Oman MOH escalation policy** — not an imported hospital structure.

PATIENT / BED	RR	SPO ₂	AIR/O ₂	SBP	PULSE	ACVPU	TEMP	TOTAL

ABCDE drill — spoken aloud

In pairs. One is the patient, one assesses out loud. 4 minutes each, then swap.

Participant

Date _____

#	OBSERVED BEHAVIOUR	NOT DONE	PARTIAL	DONE
1	States safety and first impression before touching the patient			
2	Speaks to the patient — uses the reply to answer A, B and C			
3	Names each letter aloud as they reach it			
4	Announces each finding in a form a colleague could write down			
5	Declares the treatment at the letter — does not defer it			
6	Counts the respiratory rate rather than estimating it			
7	Checks glucose at D without prompting			
8	Returns to A after the loop and says so			

**One thing
Onto
this change
do next
well time**

RESULT

PASS

REPEAT

Assessor signature

NEWS2 scoring & escalation

Three written observation sets. Score on paper in under a minute each, then confirm against the calculator.

Participant

Date

#	OBSERVED BEHAVIOUR	NOT DONE	PARTIAL	DONE
1	Set A total correct			
2	Set B total correct			
3	Set C total correct			
4	Identifies a single parameter scoring 3 and says why it matters			
5	States the required response for the score obtained			
6	Knows when Scale 2 applies — and that it needs a confirmed prescription			
7	Says that clinical concern overrides a reassuring score			
8	Completes each set in under one minute			

Critical: a participant who scores correctly but cannot name the escalation has not passed this station. The number exists to make someone come.

**One thing
One thing change
do next
well time**

RESULT

PASS

REPEAT

Assessor signature

3

Oxygen & delivery devices

Our actual equipment on the table. Handle each device and state the target and the reason.

Assessor

Participant

Date

#	OBSERVED BEHAVIOUR	NOT DONE	PARTIAL	DONE
1	States the usual acute target 94-98%			
2	States 88-92% where hypercapnic risk is known			
3	States asthma oxygen: only if SpO₂ <92%, upper limit 95%			
4	Selects an appropriate device for a stated target and flow			
5	Assembles the bag-mask correctly and achieves a seal			
6	Ventilates at 1 breath every 6 seconds in respiratory arrest with a pulse			
7	Assembles and uses a spacer correctly with a pMDI			
8	Says that oxygen is a drug, given for hypoxaemia and titrated			

Critical: reflex high-flow oxygen for every acutely unwell patient, with no stated target, is a fail — as is a bag-mask assembled without a reservoir when one is available.

One thing
onto this change
done next
well

RESULT

PASS

REPEAT

Assessor signature

4

SBAR — the escalation call

Delivered aloud to the room as if on the telephone, immediately after the simulation.

Assessor

Participant

Date

#	OBSERVED BEHAVIOUR	NOT DONE	PARTIAL	DONE
1	S — identifies self, place, patient and what is happening now			
2	Signals severity in the first ten seconds			
3	B — relevant background only, no narrative			
4	A — ABCDE findings with numbers, including NEWS2			
5	States what was given and the response to it			
6	R — an explicit request (“I need you here now”)			
7	The request is time-bound and confirms what happens next			
8	Delivers it in under 60 seconds			

Critical: a handover with no Recommendation is a fail, however complete the rest. The listener must know exactly what is being asked of them.

One
thing
onto
this change
done next
well time

RESULT

PASS

REPEAT

Assessor signature

Scored **live**, by a facilitator who is not running the scenario. Retrospective scoring drifts towards kindness. Print two — one per simulation. **Scores are not read out to the group.** Debrief on behaviour; the numbers go to the programme record.

Simulation Team / group Leader Date Scored by

#	DOMAIN	GROUP	NOT DONE 0	PARTIAL 1	DONE 2
1	Recognises critical illness	ABCDE			
2	Calls for help early	ABCDE			
3	Uses ABCDE systematically	ABCDE			
4	Treats life-threatening abnormalities before moving on	Treatment			
5	Uses oxygen and ventilation appropriately	Treatment			
6	Initiates monitoring and access appropriately	Treatment			
7	Checks glucose when relevant	Treatment			
8	Reassesses after intervention	Treatment			
9	Makes an appropriate escalation / transfer decision	Communication			
10	Gives structured SBAR communication	Communication			

SUB-SCORE	POINTS	MAXIMUM	%	WHAT A LOW SCORE HERE MEANS
ABCDE (items 1–3)		6		The sequence itself is not yet automatic — repeat Station 1.
Treatment & reassessment (4–8)		10		They assess well and act late. Drill “treat at the letter, then reassess”.
Communication & escalation (9–10)		4		Recognition without escalation. Repeat Station 4 and re-audit next drill.
OVERALL		20		—

System gaps found during this simulation — equipment missing, drug not stocked, expiry passed, pathway unclear. These go to the Corrective Action Register the same day.

☐

DEBRIEF COMPLETED

YES

NO

Facilitator signature

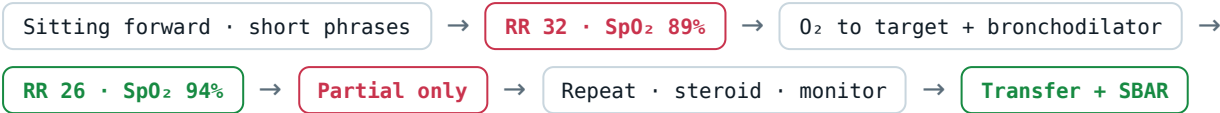
D2-SIM-A

Respiratory deterioration — the diagnosis is never announced

Say only this: “This 34-year-old was brought in by a relative. She is struggling to breathe. That is all you know.”

Do not name the condition. Do not confirm or deny a diagnosis if asked. **Alternative version** — collapse 10 minutes after an intramuscular antibiotic in the injection room; run this one if the team solves the asthma too quickly.

Equipment: manikin or simulated patient · monitor · pulse oximeter · oxygen with reservoir mask · nebuliser or pMDI + spacer · ipratropium · oral prednisolone (mock) · adrenaline ampoule (mock) · glucometer · timer. **Team:** 4–5, one named leader.



STAGE	PATIENT STATE	EXPECTED TEAM RESPONSE
0:00	RR 32 · SpO ₂ 89% on air · HR 124 · BP 118/74 · T 37.1 · glucose 6.4 · Alert. Sitting forward, three-word phrases.	Call for help early · sit her up · monitor on · A: patent, speaking
0:30	B: accessory muscles, widespread expiratory wheeze, reduced air entry both bases, cannot complete a sentence.	Oxygen only if SpO₂ <92% , upper limit 95% · repeated salbutamol via spacer or nebuliser · add ipratropium
1:30	C: HR 124 sinus, warm, CRT 2 s. D: Alert, glucose normal. E: no rash, no lip swelling (<i>anaphylaxis version: urticaria + swollen lips</i>).	IV access, bloods · no reflex fluid bolus · glucose checked without prompting
4:00	RR 26 · SpO ₂ 94% on oxygen · HR 116 · longer phrases. Partial improvement only.	Recognise partial ≠ resolved · repeat bronchodilator · systemic corticosteroid · do not stand down the transfer
If delayed	Bronchodilator (or adrenaline) later than ~3 min → RR falls to 10, chest quiet, SpO ₂ 84%, ACVPU Voice. If still unrecognised → respiratory arrest.	Must recognise the quiet chest as pre-arrest, not improvement · transition to the AHA 2025 pathway if arrest occurs
Freeze	Doctor at the bedside, transfer activated, reassessment continuing.	Structured SBAR delivered aloud

Debrief — five questions. 1 · What was your first clue this was severe? 2 · When did you call for help, and would you call earlier next time? 3 · What did you reassess after the first treatment? 4 · What did the quiet chest mean? 5 · If she had arrested, what would have changed?

Anaphylaxis version — the one thing that must happen first: lay flat, **adrenaline 500 micrograms IM into the anterolateral thigh**, before any antihistamine or steroid. Repeat at 5 minutes if ABC problems persist.

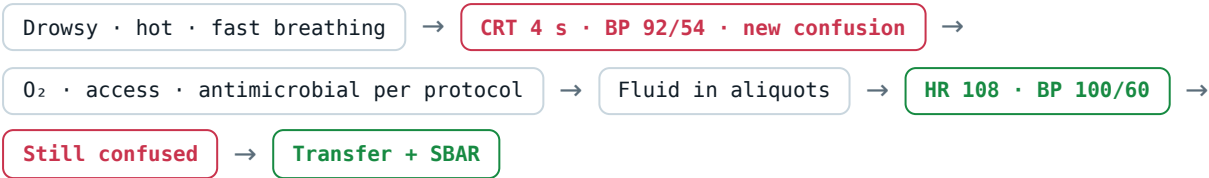
D2-SIM-B

Shock / altered patient — physiology first, label last

Say only this: “This 67-year-old man was found confused at home this morning. His daughter says he has been unwell for two days.”

Alternative version — a convulsing patient with a reversible metabolic cause; run this if the team has already met sepsis today.

Equipment: manikin or simulated patient · monitor · oxygen · IV cannulae and fluid · blood culture bottles (mock) · lactate meter if held · glucometer · urinary catheter in situ · timer. **Team:** 4-5, a **different** named leader from Simulation A.



STAGE	PATIENT STATE	EXPECTED TEAM RESPONSE
0:00	RR 26 · SpO ₂ 93% on air · HR 118 · BP 92/54 · T 38.9 · glucose 9.1 · new confusion . Usual systolic 150.	Recognise critical illness · call for help · A: patent but at risk · oxygen to target
1:00	B: tachypnoeic, crackles right base. C: CRT 4 s, cool peripheries, no bleeding.	IV access with bloods · lactate if available · cultures without delaying antibiotics · NEWS2 scored (=10)
2:00	D: new confusion, pupils equal, glucose as above. E: hot, no rash, probable chest source, urinary catheter present.	Source-focused examination · antimicrobial prescribed by the doctor — ceftriaxone is the backbone here · transfer activated <i>now</i> , not after the fluid
4:00	After 500 mL and oxygen: HR 108 · BP 100/60 · CRT 3 s · still confused .	Partial response · second aliquot reasonable with a check for fluid intolerance (new crackles, rising O ₂ need)
If delayed	Recognition or fluid later than ~5 min → BP 78/40, ACVPU Voice then Pain, mottled peripheries.	Teaching point: the blood pressure fell last . The perfusion signs were there from the beginning
Freeze	Antimicrobial given, transfer activated with a clear time, reassessment continuing.	Structured SBAR delivered aloud

Debrief — five questions. 1 · What told you this was shock before the blood pressure did? 2 · How much fluid did you give, over what time, and what did you check afterwards? 3 · When was the transfer decision made — could it have been earlier? 4 · What did you do about the source? 5 · What would you want written in the notes?

Seizure version: actively convulsing, glucose 1.8, everything else initially unobtainable. Expected: **start the timer** · protect from injury, do not restrain · airway and oxygen · glucose checked and corrected (**glucose 20% 100 mL or 10% 200 mL IV over 15 min = 20 g**) · if still seizing at 5 minutes, **diazepam 10 mg IV** (max 5 mg/min) or **buccal midazolam 10 mg** if no IV — **maximum two doses**. Postictal is not recovered — recovery position, oxygen, someone stays.