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PROPOSAL FOR THE NATIONAL EMS FRAMEWORK

SCOPE OF PRACTICE FOR EMS PERSONNEL

What Ambulance Operators, EMTs and Advanced EMTs in Kenya may do, which medicines they may give, and what it means for training, registration and medical direction.

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ABOUT THIS DOCUMENT

PURPOSE AND STATUS

This draft proposes what Ambulance Operators, Emergency Medical Technicians (EMTs) and Advanced EMTs in Kenya may do, so that training, registration, employment and payment rest on one shared definition.

- **Who proposes it:** Sahara EMS College, as a contribution to the national EMT and EVOC curriculum process led by the Ministry of Health and KNPHI, and to KMPDC's work on EMS registration.
- **What it covers:** the three levels below the degree-level paramedic. For the Paramedic, it refers to the draft Scope of Practice of The Paramedic Association of Kenya (TPAK, SOP/001/2026) and shows only where the boundary lies.
- **Status:** a draft for discussion. It has no legal effect until KMPDC adopts a scope of practice. Medicines also need Pharmacy and Poisons Board approval and national protocols.

Three terms are kept apart throughout:

TERM	ANSWERS THE QUESTION	SET BY
Scope of practice	What may this level do at most?	Regulator (KMPDC)
Protocol	When and how is it done: indication, dose, contraindications?	Medical director, national clinical guidelines
Authorisation	May this person do it, here and now?	Training, assessment, registration, credentialing and the employer's clinical privileges

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01 · LEVELS

FOUR LEVELS, THREE KMPDC REGISTERS

Four levels, three KMPDC registers: the Advanced EMT is an endorsement on the EMT register, not a separate profession.

LEVEL	ROLE ON THE AMBULANCE	KMPDC REGISTER	TYPICAL ROUTE	WORKS UNDER
Ambulance Operator	Drives safely, secures the scene, starts basic life support, assists the crew	Ambulance Operator	EVOC course, AHA BLS and first aid	The clinical crew member on board
EMT	Clinical lead on a basic life support ambulance	EMT	Certificate, KNQF level 5	National protocols and online medical direction
Advanced EMT	Clinical lead on long transfers and where no paramedic is available: IV access, supraglottic airway, more medicines	EMT, with AEMT endorsement	AEMT-level certificate, or EMT plus bridging module, then supervised practice and credentialing	Protocols and a credential from the medical director
Paramedic	Advanced life support, autonomous clinical decisions	Paramedic	BSc in Paramedic Science and a one-year internship	The TPAK Scope of Practice (SOP/001/2026, draft)

The structure follows the four levels of the US National EMS Scope of Practice Model (NHTSA, 2019, updated 2021) and WHO's split into basic and advanced prehospital providers (WHO, 2025). KMPDC's registration form already lists Ambulance Operator, Emergency Medicine Technician and Paramedic (KMPDC form), so no new register is needed.

KMPDC's ambulance inspection checklist already sorts vehicles into basic ambulances, crewed by a licensed EMT, and advanced ambulances, where a paramedic is mandatory (KMPDC checklist). The levels here fit that split.

02 · PRINCIPLES

TEN PRINCIPLES DECIDE WHAT BELONGS WHERE

Ten principles decide what belongs at which level.

01 **Levels build on each other.** Each level includes everything the levels below it may do.

02 **Three roles, three decisions.** KMPDC sets the scope, the medical director sets protocols, the employer grants clinical privileges. Equipment on the vehicle never authorises its use on its own.

03 **Kenya's emergencies set the content.** Road injuries, bleeding after birth, sick children, sepsis, snakebite, burns and poisoning come first.

04 **Kenya's conditions set the depth.** Long transfers, crews of two and few paramedics mean the person on most ambulances must be able to bridge an hour or more safely.

05 **Every intervention earns its place.** A skill or medicine is included only if it helps patients in Kenyan prehospital conditions and can be taught, assessed and supervised safely.

06 **Medicines must survive the vehicle.** Drug compartments in hot climates reach more than 50 °C (Qatar, 2025; South Africa, 2021). Heat-stable medicines come first; a medicine that needs 2–8 °C, such as oxytocin, is carried only where cold storage is verified.

07 **Doses are designed to be safe.** Fixed doses or weight bands, one concentration per medicine on basic ambulances and 1-mL syringes for small doses. In one US study, about a third of children's medicine doses given by EMS were wrong (Hoyle et al., 2012).

08 **Rare skills are practised often.** Skills marked as credentialed need extra training, written authorisation by the medical director and regular re-verification, because skills used rarely fade within months.

09 **One title, one scope.** The same level means the same scope with every employer: county, private, NGO or event service.

10 **The scope is reviewed.** KMPDC reviews it at least every three years, or earlier when evidence or the health system changes.

03 · SKILLS

WHAT EACH LEVEL MAY DO

The EMT works with non-invasive skills and simple, heat-stable medicines; the Advanced EMT adds IV and IO access, a supraglottic airway in any patient and IV medicines; invasive airway, ECG interpretation and manual defibrillation stay with the Paramedic.

✓ = in scope · C = in scope only after credentialing by the medical director · – = not in scope · AP = Advanced Paramedic in the TPAK draft. Each level includes everything to its left.

SKILL	AMBULANCE OPERATOR	EMT	ADVANCED EMT	PARAMEDIC
ASSESSMENT AND MONITORING				
Scene safety, hazard control, call 922 and pre-alert	✓	✓	✓	✓
Recognise life threats (xABCDE primary survey)	✓	✓	✓	✓
Vital signs, pulse oximetry, temperature, blood glucose	–	✓	✓	✓
Stroke screen (BE-FAST), Glasgow Coma Scale, pain score, triage	–	✓	✓	✓
12-lead ECG: record and transmit, where a reader and a reperfusion pathway exist	–	–	✓	✓
12-lead ECG: interpret	–	–	–	✓
CO_2 detection to confirm an airway device (colorimetric or waveform)	–	C	✓	✓
AIRWAY AND BREATHING				
Positioning, airway manoeuvres, choking relief	✓	✓	✓	✓
Bag-valve-mask ventilation during CPR	✓	✓	✓	✓
Suction, oro- and nasopharyngeal airway	–	✓	✓	✓
Oxygen, titrated to target saturation	–	✓	✓	✓
Salbutamol by inhaler with spacer; nebuliser	–	✓	✓	✓
Supraglottic airway (i-gel) in cardiac arrest	–	C	✓	✓
Supraglottic airway in other patients	–	–	✓	✓
CPAP	–	–	–	AP
Endotracheal intubation	–	–	–	✓
Needle decompression of a tension pneumothorax	–	–	–	✓

SKILL	AMBULANCE OPERATOR	EMT	ADVANCED EMT	PARAMEDIC
CIRCULATION AND RESUSCITATION				
High-quality CPR, AED	✓	✓	✓	✓
Direct pressure, wound packing with plain gauze, tourniquet	✓	✓	✓	✓
Pelvic binder (a folded sheet is acceptable); haemostatic dressing where stocked	–	✓	✓	✓
Peripheral IV access	–	–	✓	✓
Intraosseous access (manual needle in children, powered device where available)	–	–	✓	✓
IV fluids by protocol: permissive hypotension in trauma, boluses in children only for shock	–	–	✓	✓
Manual defibrillation	–	–	–	✓
Synchronised cardioversion, external pacing	–	–	–	AP
TRAUMA AND MOVING PATIENTS				
Emergency moves, manual head and neck stabilisation	✓	✓	✓	✓
Burns: cooling and covering	✓	✓	✓	✓
Snakebite: keep still, immobilise the limb, no tourniquet, transport to a facility with antivenom	✓	✓	✓	✓
Splinting, including traction splint	–	✓	✓	✓
Selective spinal motion restriction (scoop, vacuum mattress, KED)	–	✓	✓	✓
OBSTETRIC AND NEWBORN				
Normal birth	–	✓	✓	✓
Complicated birth: breech, shoulder dystocia, cord prolapse	–	✓	✓	✓
Bleeding after birth: uterine massage, misoprostol, heat-stable carbetocin IM	–	✓	✓	✓
Bleeding after birth: tranexamic acid IV	–	–	✓	✓
Eclampsia: magnesium sulphate IM loading dose before transfer	–	–	✓	✓
Newborn resuscitation (Helping Babies Breathe)	–	✓	✓	✓
Advanced newborn resuscitation	–	–	–	AP
MEDICAL EMERGENCIES				
Seizures: benzodiazepine by rectal, buccal or intranasal route	–	C	✓	✓
Anaphylaxis: adrenaline IM	–	✓	✓	✓
Opioid overdose: naloxone intranasal	–	✓	✓	✓
Severe pain: methoxyflurane, self-administered by inhaler	–	✓	✓	✓

SKILL	AMBULANCE OPERATOR	EMT	ADVANCED EMT	PARAMEDIC
MEDICINE ROUTES				
Oral, buccal, sublingual, inhaled, rectal	–	✓	✓	✓
Intramuscular, intranasal	–	✓	✓	✓
Intravenous, intraosseous	–	–	✓	✓ IO: AP
OPERATIONS				
Emergency driving (EVOC certificate required for any driver)	✓	✓	✓	✓
Lifting and moving, vehicle and equipment checks, decontamination	✓	✓	✓	✓
Medicine storage: temperature log and stock rotation	–	✓	✓	✓
Mass casualty triage	–	✓	✓	✓
Destination choice (nearest capable facility) and handover	–	✓	✓	✓
Patient care record and SHA documentation	Run sheet	✓	✓	✓
Interfacility transfer of stable patients	–	✓	✓	✓
Interfacility transfer with IV fluids running	–	–	✓	✓
Interfacility transfer with medicated infusions or ventilation	–	–	–	**AP**

The EMT and Advanced EMT columns follow the US model (NHTSA, 2021, pp. 25–31) and WHO's basic and advanced provider protocols (WHO, 2025), checked against Ireland, Queensland, Victoria and Washington State. The reasons for each choice are in Annex A. The Paramedic column summarises the Registered Paramedic level of the TPAK draft (Annex 1). Fluid boluses for children follow the FEAST trial in Kenya, Uganda and Tanzania, where boluses in children with severe febrile illness increased deaths (Maitland et al., 2011).

04 · MEDICINES

HEAT-STABLE MEDICINES FIRST

Every EMT medicine is heat-stable and given by mouth, inhaler, nose or a fixed-dose injection; the Advanced EMT adds IV medicines. The lists follow WHO's basic and advanced provider lists (WHO, 2025, pp. 26–30), adapted to Kenya's supply, law and climate. Each level includes the medicines of the level below.

MEDICINE	MAIN USE	ROUTE	FROM LEVEL
Oxygen	Low oxygen saturation	Inhaled	EMT
Aspirin	Suspected acute coronary syndrome	Oral	EMT
Glucose	Low blood sugar, patient able to swallow	Oral, buccal	EMT
Paracetamol	Pain, fever	Oral, rectal	EMT
Ibuprofen	Pain	Oral	EMT
Methoxyflurane	Severe pain, for example fractures, dislocations and burns	Inhaled, self-administered	EMT
Salbutamol	Asthma, bronchospasm	Inhaler with spacer first, nebulised	EMT
Ipratropium	Severe bronchospasm, with salbutamol	Nebulised	EMT
Adrenaline 1 mg/ml	Anaphylaxis	IM, from ampoule with 1-mL syringe and weight bands	EMT
Naloxone	Opioid overdose with slow breathing	Intranasal	EMT
Ondansetron	Vomiting	Oral (dispersible)	EMT
Oral rehydration salts	Dehydration	Oral	EMT
Misoprostol	Preventing and treating bleeding after birth	Oral, sublingual	EMT
Heat-stable carbetocin	Preventing bleeding after birth	IM	EMT
Diazepam or midazolam	Seizures	Rectal (diazepam); buccal or intranasal (midazolam)	EMT (C)
Sodium chloride 0.9%, Ringer's lactate	Shock, dehydration	IV, IO	Advanced EMT
Glucose 10%	Low blood sugar	IV, IO	Advanced EMT
Adrenaline	Cardiac arrest	IV, IO	Advanced EMT
Naloxone	Opioid overdose	IV, IM	Advanced EMT
Midazolam	Seizures	IM	Advanced EMT
Tranexamic acid	Major bleeding after injury or birth, within 3 hours	IV	Advanced EMT
Magnesium sulphate	Severe pre-eclampsia, eclampsia: loading dose before transfer	IM	Advanced EMT

MEDICINE	MAIN USE	ROUTE	FROM LEVEL
Calcium gluconate	Magnesium toxicity	IV	Advanced EMT
Paracetamol	Pain	IV	Advanced EMT
Ondansetron	Vomiting	IV, IM	Advanced EMT
Glyceryl trinitrate	Chest pain of cardiac origin	Sublingual	Advanced EMT
Oxytocin	Bleeding after birth, only where 2–8 °C storage is verified	IM	Advanced EMT
Paramedic formulary	Including amiodarone, atropine, opioids and further medicines	As in TPAK draft, Annex 2	Paramedic

Doses, indications and contraindications belong in national protocols, not in the scope. Every medicine needs Pharmacy and Poisons Board approval for prehospital use. KMPDC's ambulance inspection checklist already requires adrenaline, dextrose and saline on every basic ambulance (KMPDC checklist).

Oxytocin is not on the EMT list because it needs 2–8 °C: in samples from Kenya and three other countries, only 6 of 17 oxytocin products met quality standards (Ammerdorffer et al., 2022). Heat-stable carbetocin was as effective as oxytocin in the CHAMPION trial, which included Kenya, and stays stable at 30 °C (Widmer et al., 2018). Kenya's Ministry of Health approved carbetocin and tranexamic acid for all levels of care in 2025 (Eastleigh Voice, 2025).

Methoxyflurane gives EMTs strong pain relief without a controlled drug or a needle: the patient inhales it at a fixed dose. First responders in Queensland and Victoria and EMTs in Ireland use it (PHECC medications). It is not yet registered in Kenya, so the Pharmacy and Poisons Board must register it or authorise its import before use.

Diazepam and midazolam are controlled under the Narcotic Drugs and Psychotropic Substances Act. The Act allows administration by a qualified person on the instructions of a medical practitioner (Kenya Law); whether a medical director's standing order meets that test needs a legal opinion.

05 · LIMITS

WHAT STAYS WITH PARAMEDICS AND HOSPITALS

These stay with the Paramedic or with hospital staff, or are not done at all.

- Endotracheal intubation, drug-assisted airway management and surgical airways
- Needle or finger decompression of the chest
- ECG interpretation as the basis for treatment, manual defibrillation, cardioversion and pacing
- CPAP
- Opioids, ketamine and any sedation
- Amiodarone and other antiarrhythmics; oxytocin IV
- Antibiotics, blood products, thrombolysis and antivenom
- Prescribing, or giving patients medicines to take home
- Any medicine not on the list above, even if it is on the vehicle
- Leaving a patient at home without transport, except by protocol and after contact with medical direction

Some practices are excluded because they harm patients:

- Tourniquets, incisions or suction for snakebite
- Routine long-board immobilisation of every trauma patient
- Fluid boluses for children with fever but without shock
- Oxytocin kept without verified cold storage
- Activated charcoal as a routine treatment for poisoning

06 · GOVERNANCE

EVERY CREW WORKS UNDER A MEDICAL DIRECTOR

Every EMT and Advanced EMT works under a named medical director, and every credentialed skill is audited.

- **Medical director:** each service names a registered medical practitioner who approves its protocols, signs credentials and leads audit. Where a national EMS medical director function exists, services follow its protocols.
- **Online medical direction:** crews call the service doctor or the National Ambulance Dispatch Centre (922) when a case falls outside protocol, when a patient refuses care, or before stopping a resuscitation.
- **Protocols:** national clinical protocols per level, adapted from the WHO prehospital protocols and the Kenya clinical guidelines. A service may narrow the scope for its staff, never widen it.
- **Credentialing:** a credentialed skill needs completed training to that level, a passed practical exam (OSCE), supervised use on real patients and written authorisation by the medical director.
- **Currency:** AHA BLS every two years for all levels; AHA ACLS and AHA PALS, or equivalent, for Advanced EMTs. Rare skills such as supraglottic airway, IO access and newborn resuscitation are practised on manikins every month and re-verified every 6–12 months; in one study, supraglottic airway skills fell from 94% to 66% within three months (JMVH review).
- **Medicine safety:** temperature-logged storage, stock rotated before heat damage, one concentration per medicine on basic ambulances and weight-band charts for children. KMPDC already requires a paediatric dosing chart on every ambulance.
- **Audit:** every use of a credentialed skill or medicine, every death on scene and every adverse event is reviewed. Patterns are fed back into training and protocols.
- **Documentation:** a patient care record for every patient, every medicine recorded with time and dose, and the run sheet, dispatch ID and signed handover that SHA requires for payment (SHA, 2026).

07 · TRAINING

WHAT EACH LEVEL MEANS FOR TRAINING

Each level needs a minimum volume of training, a share of time with real patients and an exam set outside the training institution. The figures are proposals for discussion.

LEVEL	MINIMUM TRAINING	WITH REAL PATIENTS	KNQF	BEFORE INDEPENDENT PRACTICE
Ambulance Operator	EVOC course (about 2 weeks), AHA BLS, first aid	Supervised driving, assessed on the job	Short course	EVOC certificate, AHA BLS card
EMT	Certificate of at least 120 credits (about 1,200 learning hours)	At least a third, recorded in a logbook	Level 5	National written exam and OSCE, EMT registration
Advanced EMT	AEMT-level certificate of at least 160 credits (about 1,600 hours), or EMT plus a bridging module of about 400 hours	At least 40%, including AEMT skills in the logbook	Level 5	Six months of supervised practice, credential from the medical director, AEMT endorsement
Paramedic	BSc in Paramedic Science (4 years) and a one-year internship	As set by the degree programme	Level 7	As set in the TPAK draft

A KNQF level 5 craft certificate carries 120 to 239 credits, and one credit equals 10 notional learning hours (KNQA). Both certificate options therefore fit level 5.

Training time is not what limits safe scope. Ireland's EMT course has about 160 hours (Emergency Services Training Institute), and Irish EMTs may use a supraglottic airway, IM adrenaline, intranasal naloxone and methoxyflurane (PHECC, 2015; PHECC medications). The limits are skill maintenance, safe dosing, medicines law and supply.

EMT OR ADVANCED EMT AS THE NATIONAL CERTIFICATE?

	OPTION A: EMT CERTIFICATE, AEMT LATER	OPTION B: CERTIFICATE TRAINED TO AEMT LEVEL
Programme	At least 1,200 hours; AEMT through a later bridging module	At least 1,600 hours in 12 months; AEMT endorsement after six months of supervised practice
On the ambulance	Most crews without IV access, airway device or IV medicines for years	Crews who can bridge long transfers once credentialed
Cost and capacity	Lower entry cost; a second course for everyone who moves up	More skills lab equipment, preceptors and placement time per student
Comparable systems	Ghana and South Africa stage basic and advanced levels over one and two years	Scope similar to the US AEMT and WHO's advanced provider

Sahara EMS College recommends Option B; its own curriculum, version 1.0, plans 1,800 hours. Kenya has few paramedics and long transfers, and KMPDC already puts dextrose and saline on every basic ambulance: only staff with IV skills can use them. Washington State uses the same model and adds IV therapy and the supraglottic airway as endorsements on the EMT certificate (Washington DOH, 530-173). Supervised practice before the endorsement follows the 2016 assessment of Kenyan EMS training, which advised field experience before advanced training (Nicholson et al., 2017).

PEOPLE ALREADY WORKING AND THOSE WHO TEACH

- **Existing EMTs** register as EMT through recognition of prior learning: a portfolio of experience and a practical exam, within a transition window of several years.

- **Diploma holders**, for example of the KMTC Diploma in Emergency Medical Technology, qualify for the AEMT endorsement once their programme has been mapped to this scope.
- **Instructors** hold a qualification at or above the level they teach and a recognised instructor qualification. AHA BLS, AHA ACLS and AHA PALS courses follow the American Heart Association's instructor rules.

AMBULANCE OPERATORS

The driver is the crew member most likely to cause harm: most fatal ambulance crashes involve speeding or leaving the lane, and lights and siren bring no outcome benefit except in cardiac arrest and airway obstruction (DHS, 2015).

- **Entry:** driving licence, secondary school certificate, AHA BLS and police clearance, as KMPDC already requires, plus a clean driving record for the last three years and a medical fitness check.
- **Training:** an EVOC course, then supervised emergency and non-emergency runs with a trainer before driving alone; a refresher every year.
- **On the road:** everyone on board belted, full stop at red lights and junctions, lights and siren only for time-critical cases, and shifts planned against fatigue.

08 · DECISIONS

DECISIONS FOR THE NATIONAL PROCESS

01 **Register model:** Advanced EMT as an endorsement on the EMT register, as proposed here, or as a fourth register.

02 **National certificate:** Option A or Option B, with minimum hours and share of time with real patients.

03 **Strong pain relief below paramedic level:** methoxyflurane is included at EMT level but is not yet registered in Kenya, so registration or an import authorisation is needed; ketamine and opioids stay at Paramedic level.

04 **Controlled medicines:** whether a medical director's standing order allows EMTs and Advanced EMTs to give diazepam and midazolam under the Narcotic Drugs and Psychotropic Substances Act.

05 **Magnesium sulphate and tranexamic acid at EMT level:** WHO lists magnesium sulphate for basic providers; intramuscular tranexamic acid could be piloted on long rural transfers.

06 **Supraglottic airway at EMT level:** in cardiac arrest only and credentialed, as in Ireland, or at Advanced EMT level only, as in the US model.

07 **CPAP and 12-lead ECG recording:** the US model allows both at EMT level; this draft does not, because oxygen supply is unreliable and few hospitals offer reperfusion.

08 **Transition:** length of the window and the recognition-of-prior-learning route for EMTs already working.

09 **Ambulance types and crews:** whether KMPDC's basic and advanced ambulance categories gain an intermediate category led by an Advanced EMT, in line with SHA tariffs.

10 **Medicine storage standard:** a temperature rule for ambulance medicines, which the KMPDC checklist does not yet contain.

11 **Medical direction:** a named medical director per service, a national EMS medical director function, or both.

ANNEX A

EVIDENCE AND KENYA FIT

Each skill and medicine was placed at a level after four questions: where established systems put it, whether it works on a Kenyan ambulance, whether it can be taught and kept up, and whether it helps patients.

- **Established systems:** the US National EMS Scope of Practice Model and Washington State, Ireland (PHECC), Queensland and Victoria in Australia, WHO's basic and advanced provider lists and the TPAK draft for paramedics.
- **Kenya fit:** heat in the vehicle, cold chain, supply and cost, oxygen, the Kenya Essential Medicines List 2023, medicines law and the KMPDC ambulance checklist.
- **Trainability:** time to learn, how fast the skill fades, and how often errors occur.
- **Benefit:** the best trial or review evidence for prehospital use.

Three findings shape most decisions. Training hours are not the main limit: Irish EMTs train for about 160 hours. Heat and supply are: ambulance drug compartments in hot climates exceed 50 °C, and medical oxygen was available in only 16% of Kenyan public hospitals in 2022 (Citizen Digital, 2026). And dosing errors, not technique, cause most medicine harm in children.

DECISION TABLE

SKILL OR MEDICINE	EVIDENCE	ELSEWHERE	KENYA FIT AND TRAINABILITY	LEVEL HERE
Supraglottic airway (i-gel)	As good as intubation for outcome, better ventilation, 87% vs 79% (AIRWAYS-2)	US: AEMT, EMT by endorsement in Washington; Ireland: EMT; Victoria: ALS paramedic	Affordable; needs CO_2 detection; skill fell from 94% to 66% in 3 months	**EMT in cardiac arrest (C); Advanced EMT**
IV access and fluids	Boluses raised deaths in febrile children, RR 1.45 (FEAST); trauma fluids linked to higher mortality	US: AEMT; Washington: EMT endorsement; Queensland: Advanced Care Paramedic	KMPDC puts saline and dextrose on every basic ambulance; success only 64% under age 2	**Advanced EMT, restrictive protocols**
Intraosseous access	Same outcomes as IV, first-attempt success 91–95% vs 63–65% (PARAMEDIC-3, IVIO)	US: AEMT; Ireland: Advanced Paramedic	Manual needles cheap, powered drill costly; learnt in about 3 hours	**Advanced EMT**
Tranexamic acid	Fewer bleeding deaths if given within 3 hours, harm after 3 hours (CRASH-2); same window for bleeding after birth (WOMAN)	Ireland: Advanced Paramedic; UK: paramedic	Heat-stable, fixed dose; approved at all levels of care in 2025	**Advanced EMT IV; IM pilot open**
Magnesium sulphate	Eclampsia risk more than halved, RR 0.42 (Magpie)	Ireland: Advanced Paramedic; midwives at primary level	Kenya Essential Medicines List level 2; heat-stable; needs breathing and reflex checks; antidote is IV	**Advanced EMT**
Uterotonics	Heat-stable carbetocin as good as oxytocin (CHAMPION); misoprostol at home births halves bleeding	Victoria: oxytocin IM from a fridge	Oxytocin needs 2–8 °C and only 6 of 17 products met standard; carbetocin costs about KES 92 a dose through KEMSA (Nation)	**EMT: misoprostol and carbetocin; oxytocin only with cold storage**
Strong pain relief	Methoxyflurane fast and simple but weaker than intranasal fentanyl (NSW study)	Methoxyflurane: first responders in Queensland and Victoria, EMTs in Ireland; ketamine and opioids: paramedics	Methoxyflurane not registered in Kenya; ketamine and opioids controlled	**EMT: methoxyflurane, once registered or authorised for import; ketamine and opioids at Paramedic level**

SKILL OR MEDICINE	EVIDENCE	ELSEWHERE	KENYA FIT AND TRAINABILITY	LEVEL HERE
Adrenaline for anaphylaxis	Ampoule kits safe and cheap: about US$9 vs US$600 for an auto-injector (King County)	US: EMT; Ireland: EMT	1 mg/ml stable in heat; a 1-mL syringe raised correct infant doses from 63% to 97% (JAMA Netw Open)	**EMT, ampoule with 1-mL syringe and weight bands**
Salbutamol	Inhaler with spacer as effective as nebuliser (Cochrane)	All systems; Victoria prefers the spacer	Needs no oxygen; inhaler unaffected by heat	**EMT, spacer first**
Naloxone	Intranasal 72% vs IM 78% response in 10 minutes	US: all levels	Injecting drug use concentrated in Nairobi and the coast; degrades with heat cycling, so stock is rotated	**EMT intranasal; Advanced EMT IV and IM**
Seizure medicines	IM midazolam better than IV lorazepam (RAMPART); buccal midazolam better than rectal diazepam	Ireland: midazolam at Paramedic	Both controlled; rectal diazepam at essential medicines level 2; midazolam stable in heat	**EMT (C, legal route needed); Advanced EMT**
CPAP	Lower mortality, OR 0.41 (EMJ); trials mostly by paramedics	US: EMT; Victoria: ALS; TPAK: Advanced Paramedic	Uses 6–14 L of oxygen per minute; oxygen supply unreliable	**Paramedic**
12-lead ECG	Shorter time to thrombolysis; no mortality effect shown	US: EMT; Victoria: ALS	Cath labs mainly in Nairobi, Mombasa, Eldoret and Bomet; ECG in 21% of lower-level facilities	**Advanced EMT, where a reader and reperfusion pathway exist**
Bleeding control	Tourniquets linked to survival, aOR 5.86 (ILCOR); haemostatic dressings very low certainty	US: from first responder level	Plain gauze and sheets are cheap	**Ambulance Operator and EMT; haemostatic gauze optional**
Spinal motion restriction	Immobilisation in penetrating trauma doubled deaths, OR 2.06 (Haut et al.)	US joint statement 2018 and Victoria: selective	Scoop and vacuum mattress	**EMT, selective**
Newborn resuscitation	Helping Babies Breathe cut first-day deaths, RR 0.37–0.67 (review)	All systems	11% of births at home, up to half in Turkana and Mandera; skills fall to 81% in 4 months	**EMT core, monthly practice**
Activated charcoal	No outcome benefit; no mortality effect in a Sri Lankan trial (position statement)	Ireland: EMT	Poisonings mostly by pesticides	**Not routine**
Oxygen	Titrated oxygen halved deaths in COPD compared with high flow	All systems	Available in 16% of public hospitals in 2022; county ambulances found without cylinders	**EMT, titrated and oxygen-sparing**

SOURCES FOR THIS REVIEW

- Kenya: KMPDC ambulance inspection checklist; Kenya Essential Medicines List 2023; Narcotic Drugs and Psychotropic Substances Act; Pharmacy and Poisons Act; carbetocin and TXA approved at all levels; oxygen availability.
- Medicines in heat: ambulance temperatures in Qatar and South Africa; benzodiazepines after 120 days of EMS deployment; salbutamol inhalers in extreme temperatures; oxytocin and TXA quality in four African countries.
- Scopes elsewhere: US National EMS Scope of Practice Model; Washington State 530-173; PHECC Ireland; Queensland Ambulance Service Clinical Scope of Practice, February 2021; Ambulance Victoria Clinical Practice Guidelines; WHO prehospital protocols.
- Dosing and skills: paediatric dosing errors in EMS; supraglottic airway skill fade.
- Trials and reviews: as linked in the decision table.

APPENDIX

SOURCES

All sources as linked in the text, by section; each entry links to the full document. Accessed October 2026. Not publicly available: The Paramedic Association of Kenya, Scope of Practice for Paramedics in Kenya, SOP/001/2026, draft, October 2026; Queensland Ambulance Service, Clinical Scope of Practice, February 2021.

01 · LEVELS

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