Defibrillation & the AED — 2025 AHA Quick Reference

BLS / EMT · 2025 AHA Guidelines for CPR & ECC (Part 7 Adult BLS, Part 6 Pediatric BLS) · ILCOR 2025 pad-placement & paediatric energy reviews

Pad placement

Position	Where the pads go
Anterolateral (adult default)	Pad 1 below the right clavicle, just right of the upper sternal border · Pad 2 on the left mid-axillary line, below the armpit, centre of pad in that line
Anteroposterior (alternative)	Pad 1 anteriorly over the left precordium · Pad 2 posteriorly just inferior to the left scapula · Also the infant/young-child position for manual defibrillation
Children ≥8 yr	Adult pads, anterolateral — faster, shorter compression interruption
Infants & <8 yr	Paediatric pads + AED's paediatric instructions · manual-defib trained → anteroposterior

Rules that decide whether the shock works

- **One shock, then compressions immediately** for about 2 min. No stacked shocks — a 3-shock stack delays the first post-shock compression by up to ~37 s.
- Biphasic first-shock success **up to ~90%**. Adult energy = manufacturer's recommendation (adult pads, adult energy).
- Pads on **bare skin** · must never **touch each other** · never incorporate **breast tissue** · never directly over an **implanted device** · never over a **medication patch**.
- Paediatric energy: **2 J/kg** initial (ILCOR weak rec 2–4 J/kg) · 4 J/kg second · 4–10 J/kg subsequent · never paediatric pads on an adult.
- Pad size: adult ≈ 8–12 cm, paediatric ≈ 7 × 11 cm. Some paediatric pads are adult-sized with an **attenuator** on the cord.
- Impedance falls as pads get larger — monophasic 200 J success was ~31% small / 63% intermediate / 82% large pads (not replicated with biphasic). Press pads down flat.

What hinders a shock — and the fix

Interference	Fix
Standing water / wet chest	Move out of standing water if safely possible, quick wipe where pads sit, then shock. Rain/snow is not a contraindication.
Chest hair	Press firmly; if it won't adhere, quickly remove enough hair when equipment is available. Don't delay if pads stick.
Medication patch	Gloves, remove patch, wipe the area, apply pad. (Nitroglycerin, fentanyl, clonidine, nicotine, hormone.)
Pacemaker / ICD lump	Do not place a pad directly over it — shift the pad slightly, keep overall position. Shock takes priority.
Sweat, vomit, blood, ointments	Wipe and place.
Jewellery, piercings, ECG electrodes, old gel, binders, holsters, dressings	Move if quick; otherwise place pads where you can and shock.
Bra	May stay if adjustable for correct placement; cut/remove if it blocks compressions or pad contact. Underwire alone is not a shock hazard.

Clear is an action, not a word: oxygen delivery device off the chest and flow stopped · nobody touching the patient, stretcher, mattress or attached equipment · hands off during analysis · never shock in standing water · straight back on the chest the instant the shock lands.
Refractory VF: change the vector — new pads anteroposterior. Trial: survival to discharge 21.7% vs 13.3%, VF termination 79.9% vs 67.6%. DSED = insufficient evidence, not routine.

Sources: 2025 AHA Guidelines for CPR and Emergency Cardiovascular Care, Part 7 (Adult BLS) and Part 6 (Pediatric BLS); ILCOR 2025 systematic reviews and treatment recommendations on pad size, orientation and placement, and on paediatric defibrillation energy doses. Education, not medical direction — follow local protocols and the device's instructions for use. · Forrest Munden / EMT Tutor Podcast · emsnotes.com