



European Society of
Regional Anaesthesia
& Pain Therapy

ESRA ITALIA

ESRA *Cè*

XXIX

CONGRESSO NAZIONALE

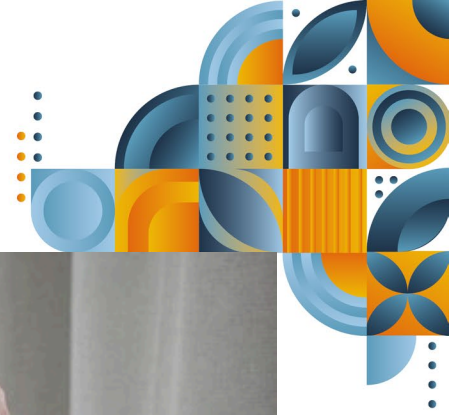
ESRA Italian Chapter
CESENA, Cesena fiere

Presidente del congresso
Vanni Agnoletti
Domenico Pietro Santonastaso
Andrea Tognù

7-9
Novembre
2024



 **MZ**
EVENTS



Local Anesthetic Systemic Toxicity (LAST)

nella paziente gravida



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Local Anesthetic Systemic Toxicity (LAST)

nella paziente gravida

Difficile stabilire la reale incidenza

Stima: da 1,04 a 1,8 casi/1000 procedure

Sembra poco?

Ematoma epidurale:

1:18.000 dopo anestesia epidurale (?)

1:220.000 dopo anestesia spinale

Danno nervoso periferico severo o permanente:

3/10.000

MA la LAST è un evento

POTENZIALMENTE LETALE



Stima: da 1,04 a 1,8 casi/1000 procedure

Di cui circa il 20%:

. si verifica in ***ambienti differenti dalla sala operatoria***

. In occasione di procedure eseguite da ***NON anestesisti***

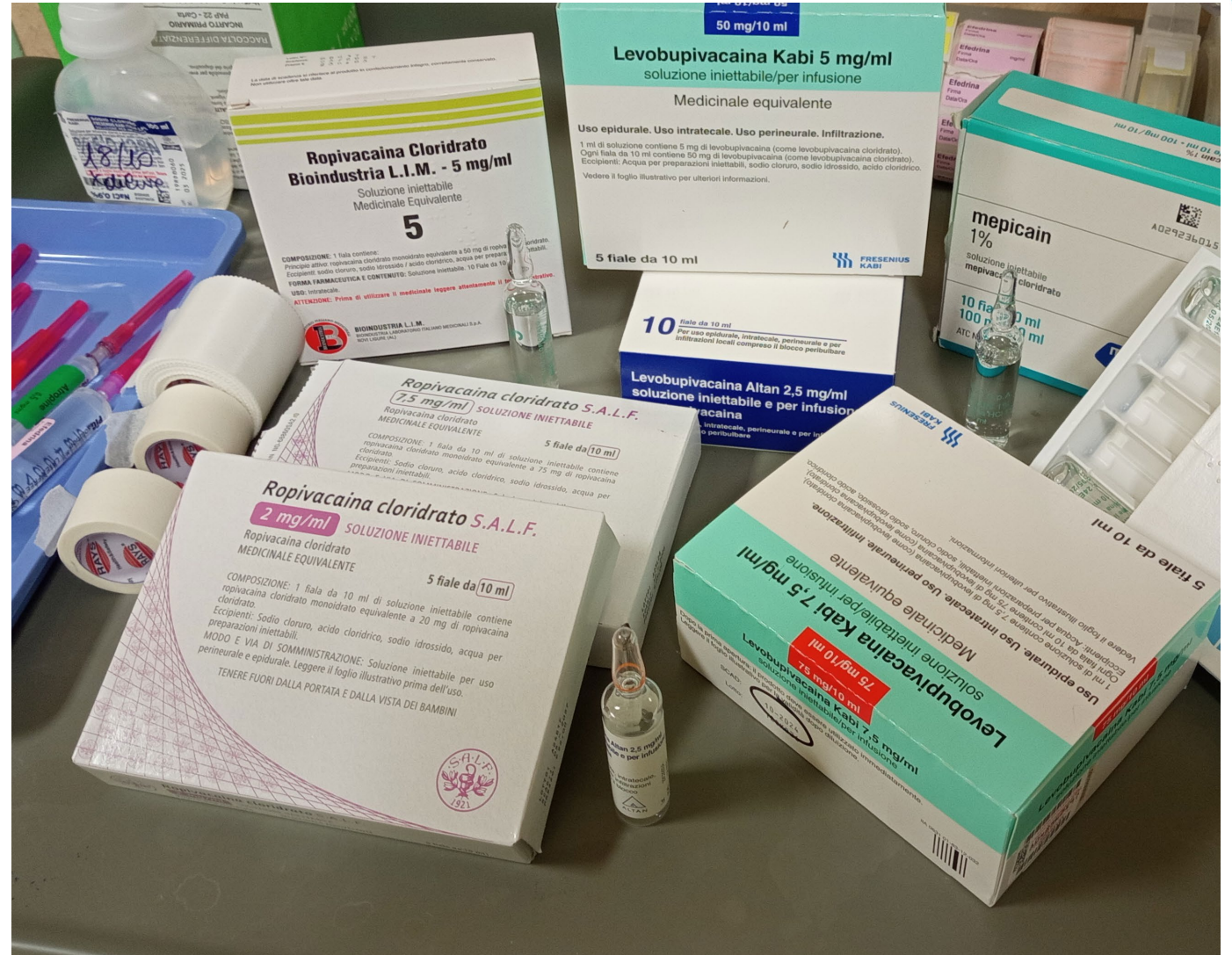
RIFLESSIONE:

La grande sicurezza raggiunta dalle tecniche di ALR ha reso una

falsa sensazione di non pericolosità

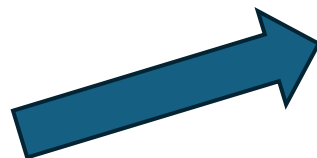


Non solo bupivacaina!
Ropivacaina e Lidocaina
sono responsabili del 26
e del 21% dei casi
disponibili in letteratura,
rispettivamente





Relazione temporale stretta fra
somministrazione di AL e comparsa
dei sintomi
(fino a 60 minuti dopo)

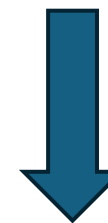


Sintomi neurologici:

tinnito, gusto metallico, agitazione psicomotoria

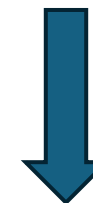


convulsioni, sopore, coma, arresto respiratorio

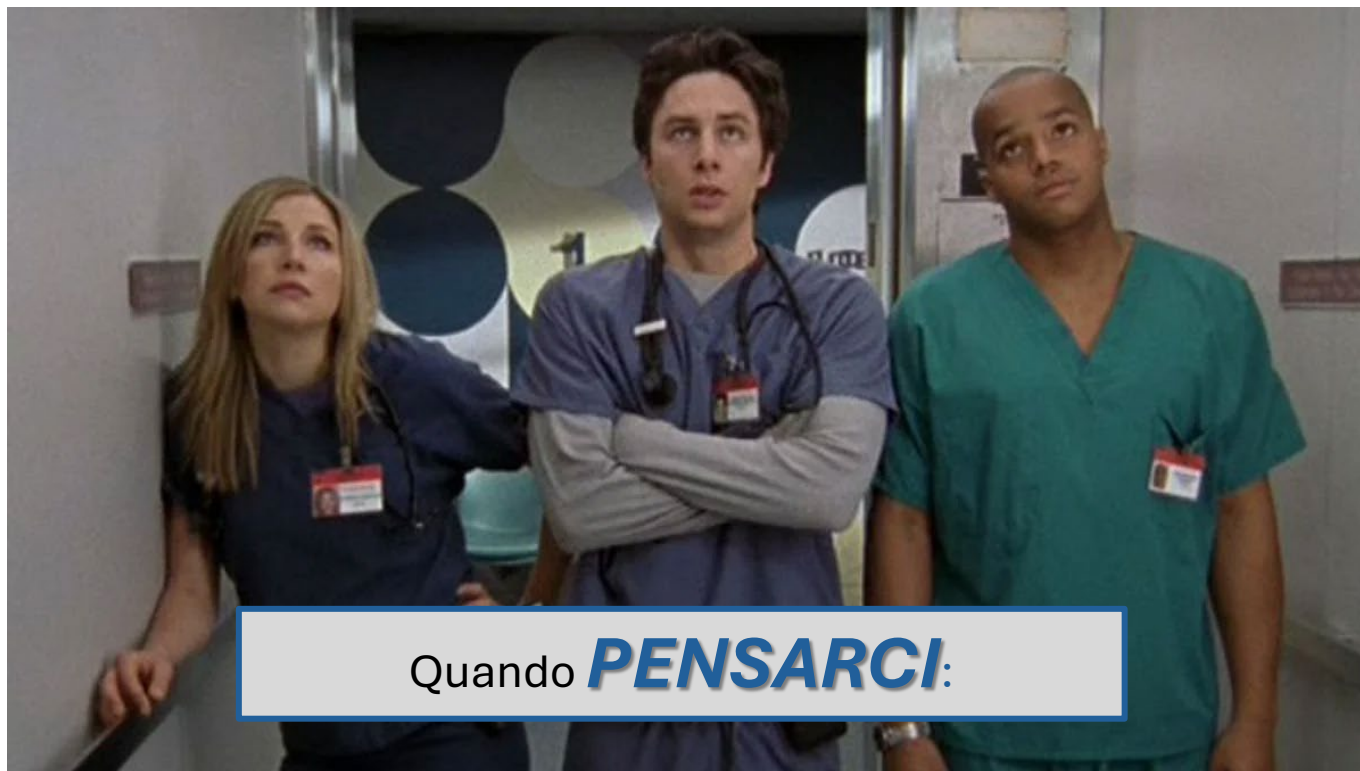


Sintomi cardiologici:

ipertensione, tachicardia, aritmie



bradicardia, blocchi di conduzione,
ipotensione, decremento della
contrattilità, asistole

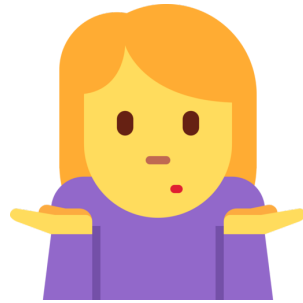


Quando **PENSARCI:**



Perché pensarci *su una donna gravida?*

LAST è 4-5 volte più frequente a seguito di un blocco nervoso periferico rispetto che ad un blocco neuroassiale



MA **la gravidanza è un fattore di rischio per LAST:**

- ✓ Le **variazioni ormonali** incrementano il rischio di aritmia e riducono la soglia epilettogena
- ✓ La **riduzione di α 1-glicoproteina acida** nel plasma materno aumenta la quota libera di farmaci
- ✓ La **congestione dei vasi venosi epidurali** aumenta il rischio di assorbimento e di incannulamento accidentale

E non dimentichiamo il bambino!

Gli ALR sono molecole di piccole dimensioni e basi deboli, pertanto

passano la placenta

- Ion trapping
- Accumulo sul versante fetale
- Immaturità degli emuntori

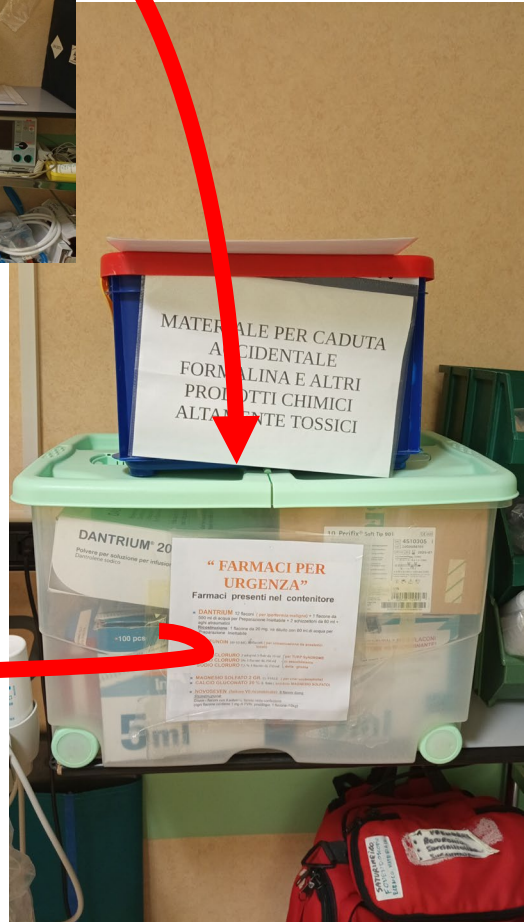
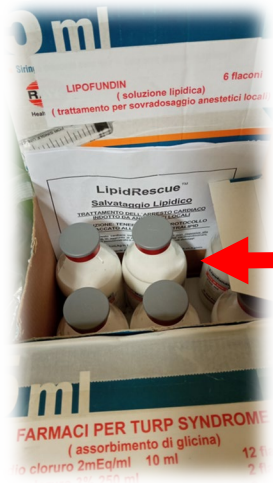




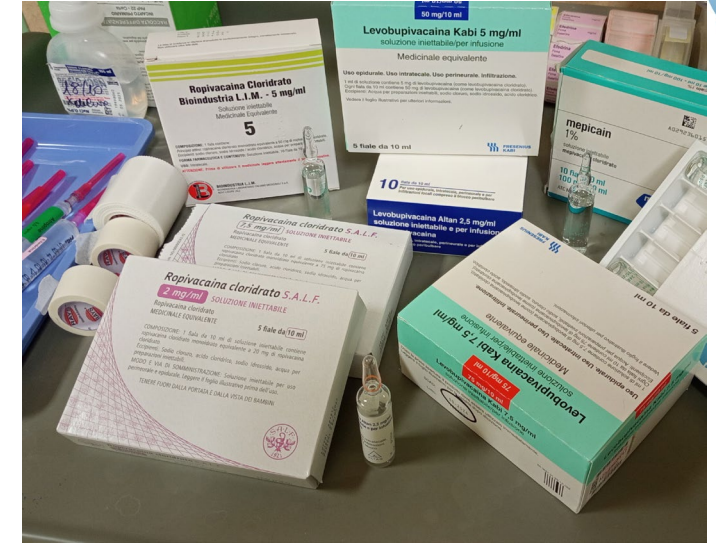
NON ESISTE UNA STRATEGIA PREVENTIVA EFFICACE AL 100%



✓ Presidi a disposizione



✓ Ecoguida



- ✓ Dose minima efficace
- ✓ Boli refratti
- ✓ Test di aspirazione

FONDAMENTALE:

- ✓ **MONITORAGGIO DEL PAZIENTE**
- ✓ **PREPARAZIONE DEI PROFESSIONISTI**



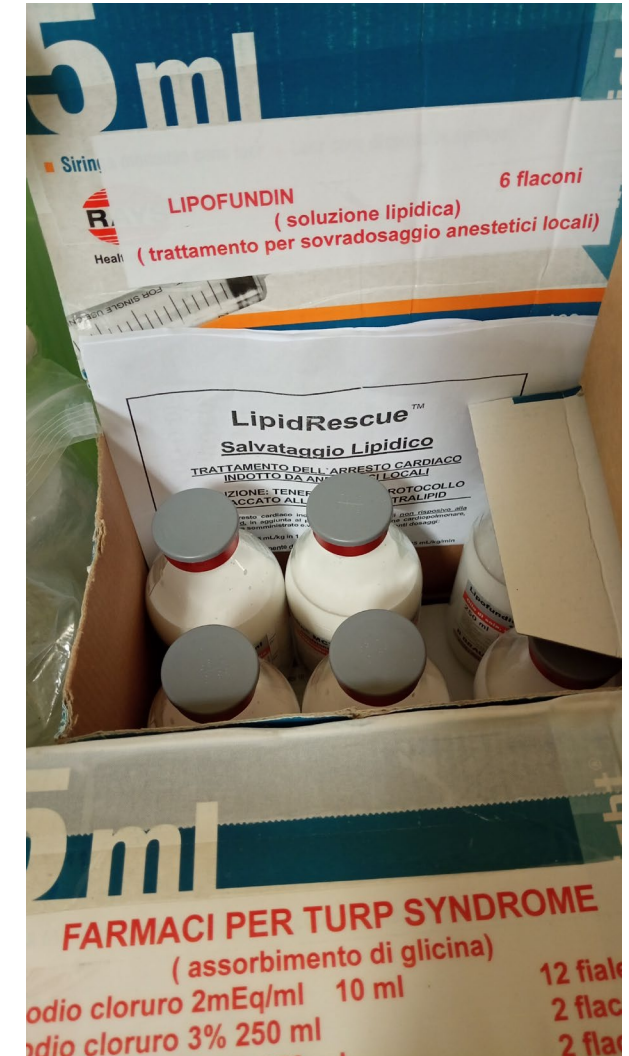
Come la trattiamo?

Non abbiamo linee guida, solo «consigli di pratica»
Lipid rescue: proposta nel 1998

2006: Primo caso di rianimazione post arresto cardiaco da overdose
di bupivacaina con intralipid

Come funziona?

- ✓ Le molecole altamente lipofile si legano all'emulsione lipidica e vengono rimosse dai tessuti
- ✓ L'emulsione lipidica ha anche un ruolo cardioprotettivo e inotropo



Trattamento:

Gestione delle vie aeree per prevenire ipossia, ipercapnia e acidosi

Somministrare **intralipid 20%** ai primi segni di LAST:

BOLO 100 ml/2-3 min se >70 kg

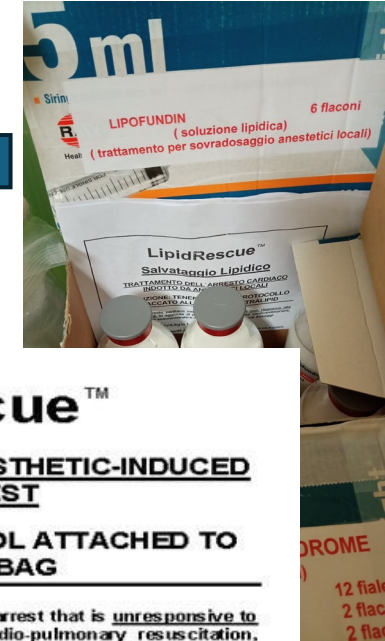
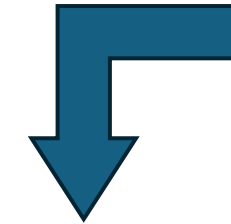
BOLO 1,5 ml/kg in 2-3 min se <70 kg

INFUSIONE: 200-250 ml in 15-20 min se >70 kg

0,25 ml/kg/min se <70 kg

- ✓ Se stabilità cardiocircolatoria non ottenuta: ripetere bolo o incrementare infusione a 0,5 ml/kg/h
- ✓ Continuare per 10 min dopo risoluzione del quadro
- ✓ Non superare i 12 ml/kg

LA TEMPESTIVITA' E' PIU' IMPORTANTE DELLA MODALITA'



LipidRescue™

TREATMENT FOR LOCAL ANESTHETIC-INDUCED CARDIAC ARREST

**PLEASE KEEP THIS PROTOCOL ATTACHED TO
THE INTRALIPID BAG**

In the event of local anesthetic-induced cardiac arrest that is unresponsive to standard therapy, in addition to standard cardio-pulmonary resuscitation, Intralipid 20% should be given i.v. in the following dose regime:

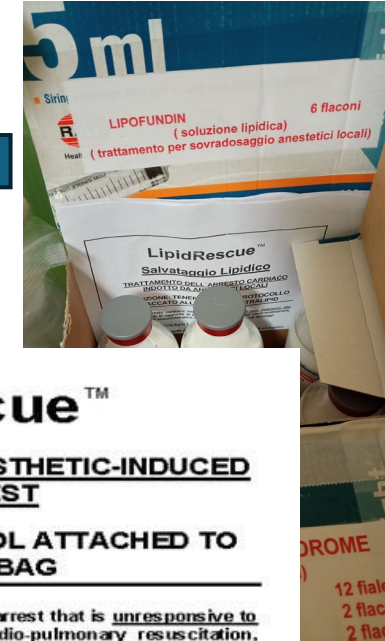
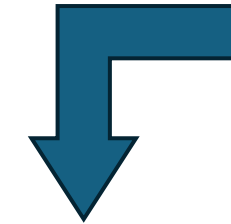
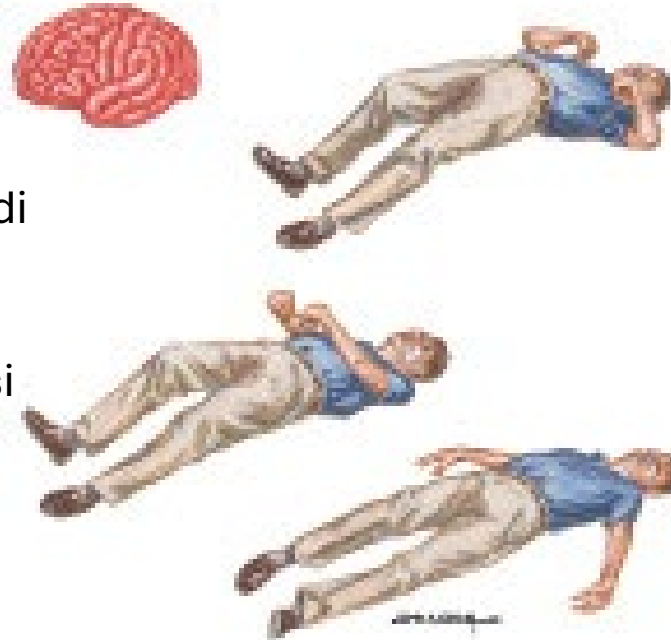
- Intralipid 20% 1.5 mL/kg over 1 minute
- Follow immediately with an infusion at a rate of 0.25 mL/kg/min,
- Continue chest compressions (lipid must circulate)
- Repeat bolus every 3.5 minutes up to 3 mL/kg total dose until circulation is restored
- Continue infusion until hemodynamic stability is restored. Increase the rate to 0.5 mL/kg/min if BP declines
- A maximum total dose of 8 mL/kg is recommended

In practice, in resuscitating an adult weighing 70kg:

- Take a 500ml bag of Intralipid 20% and a 50ml syringe.
- Draw up 50ml and give stat i.v., X2
- Then attach the Intralipid bag to an iv administration set (macro drip) and run it i.v over the next 15 minutes
- Repeat the initial bolus up to twice more – if spontaneous circulation has not returned.

Convulsioni:

- ✓ Prediligere le benzodiazepine
- ✓ Evitare propofol in caso di segni di compromissione miocardica
- ✓ Se persistono, considerare curarizzazione per evitare acidosi ed ipossiemia



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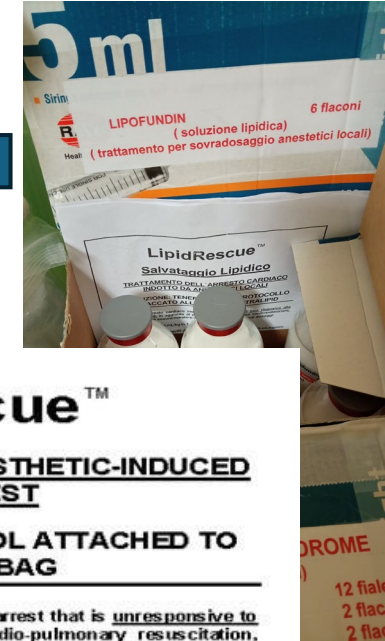
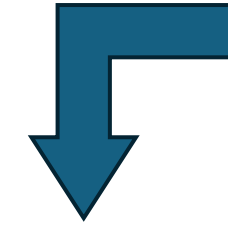


Arresto Cardiaco:

Adrenalina in dosi ridotte
(1 mcg/kg)

Non usare lidocaina o
procainamide per trattare
eventuali aritmie!

Garantire un monitoraggio
di 4-6 ore post-evento



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**LA TEMPESTIVITA' E' PIU'
IMPORTANTE DELLA MODALITA'**



TAKE-HOME MESSAGE

- Preveniamo
- Monitorizziamo
- PENSIAMOCI
- Agiamo RAPIDAMENTE

