



Zombie Idea

EPINEPHRINE FOR OUT OF HOSPITAL CARDIAC ARRESTS

Ken Milne

*Skeptics' Guide to
Emergency Medicine*

RESUS  **NL**

ZOMBIE IDEA

“A zombie idea is a view that’s been thoroughly refuted by a mountain of empirical evidence but nonetheless refuses to die, being continually reanimated by our deeply held beliefs”. Krugman 2013 NYT



ZOMBIE IDEA

**Epinephrine in
adults with OHCA
results in better
patient-oriented
outcomes (POO).**



OHCA

Challenge
Time Sensitive
Survival < 10%
Intervention Bias



MULTIPLE LINES OF EVIDENCE

Before-After

OPALS 2005

Observation

Olaveengen 2009
Hagihara 2012

RCT

Jacobs 2011

Epi not improve good neuro (POO)



PARAMEDIC-2

Epi v Saline

Survival at 30 days

Survival Good Neuro

Perkins et al
NEJM 2018



PARAMEDIC-2

0.8% Better Survival

NNT = 112

No Stat Difference In
Good Neuro Function

SGEM#238



STILL NO HIGH-QUALITY EVIDENCE OF EFFICACY



IV or IO
PARAMEDIC 3
RCT
Stopped Early



IM or IV/IO
Palatinus 2024
Before-After
Single Centre



IO Up/Down
Tanner 2024
Retro-Obs
Loss to F/U



WHO'S KEEPING THE ZOMBIE ALIVE?



Guidelines



Patient Expectations



Intervention Bias

WHAT SHOULD We DO INSTEAD?



- ✓ Bystander CPR Training
- ✓ Community Defibrillators
- ✓ Robust EMS System



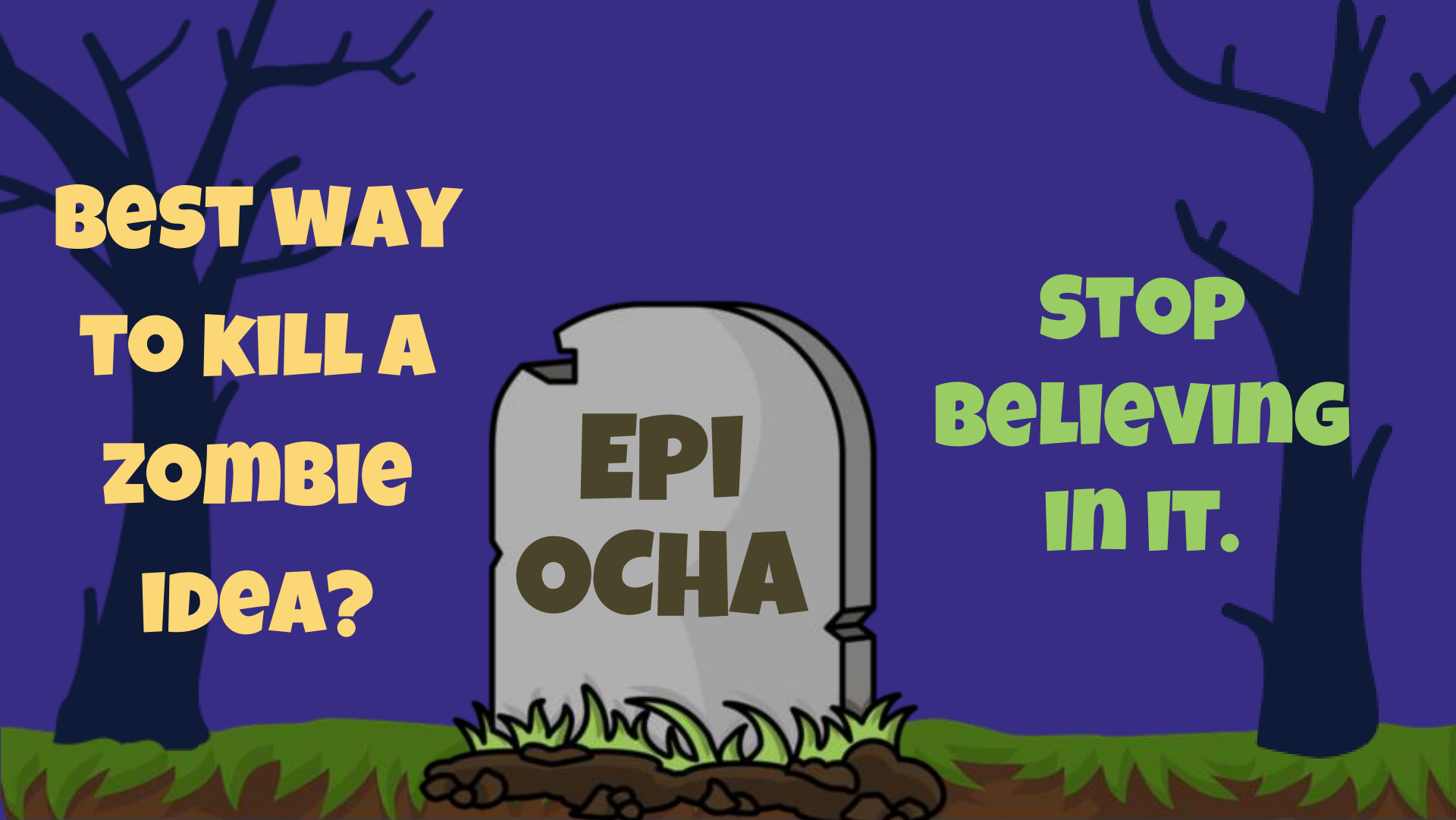
EM DOCS CAN CHASE THE ZOMBIE AWAY

**Teach trainees the truth.
Set patient/family expectations.
Talk to our pre-hospital colleagues.
Advocate for EBM protocols.
Don't just do something, stand there.**

**BEST WAY
TO KILL A
ZOMBIE
IDEA?**

**EPI
OCHA**

**STOP
BELIEVING
IN IT.**



The background is a dark purple night sky with a large, bright yellow full moon. Two cartoon zombies are standing on a green grassy field. The zombie on the left is wearing a blue t-shirt, brown shorts, and red shoes. It has a large, open mouth showing sharp teeth and is pointing its right hand towards the center. The zombie on the right is also wearing a blue t-shirt, brown shorts, and red shoes. It has a more neutral expression and is looking towards the center. Both zombies have green skin, yellow eyes, and visible wounds on their heads and bodies.

THANK YOU!

Ken Milne

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