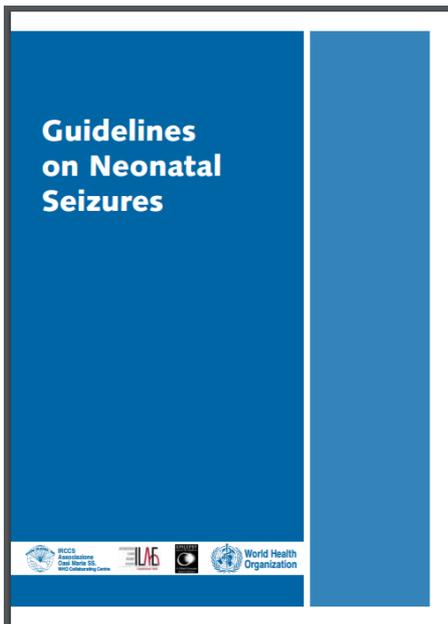




Where are we in the update of the guidelines for neonatal seizures?

R. Pressler, H. Hartmann



Evidence based treatment

- **Cochrane Report (Booth and Evans 2004)**
 - Reduction of seizure frequency
 - Reduced mortality / long-term disability
 - **Only 2 RCT with adequate outcome measures (EEG)**
 - **Painter et al NEJM 1999:**
PB vs PHT, 50% seizure free in both arms, 60% for PB + PHT
 - **Boylan et al Neurology 2004:**
50% seizure free on PB, too small for evaluation of 2nd line treatment
 - **Conclusion:**
Little evidence to support use of any AED

	Retrospective, studies with >10 cases	Prospective, uncontrolled or RCT, insufficient powered	RCT
Phenobarbital	Boylan 2002* Connell 1989	Bye & Flanagan 1995*	Painter 1999*
Phenytoin	Connell 1989	Bye & Flanagan 1995*	Painter 1999*
Midazolam	van Leuven 2004 Castro Conde 2005* Shany 2007 Yamamoto 2007	Boylan et al 2004*	None
Levetiracetam	Khan 2011* Ramantani 2011 Abend 2011* Venkatesan 2017	None	None
Diazepam	Connell 1989	None	None
Lorazepam	None	Maytal et al, 1991 Deshmukh et al, 1986	None
Clonazepam	Andre 1986	Bye & Flanagan 1995*	None
Lidocaine	Shany 2007 Lundqvist 2013 van den Broek 2013 Weeke 2016	Hellstrom- Westas 1988 Boylan 2004* Malingre 2006	None
Bumetanide	Kahle 2009	Pressler 2015*	None
Topiramate	Filippi et al 2010	None	None

* with EEG

adapted from Yozawitz et al 2017

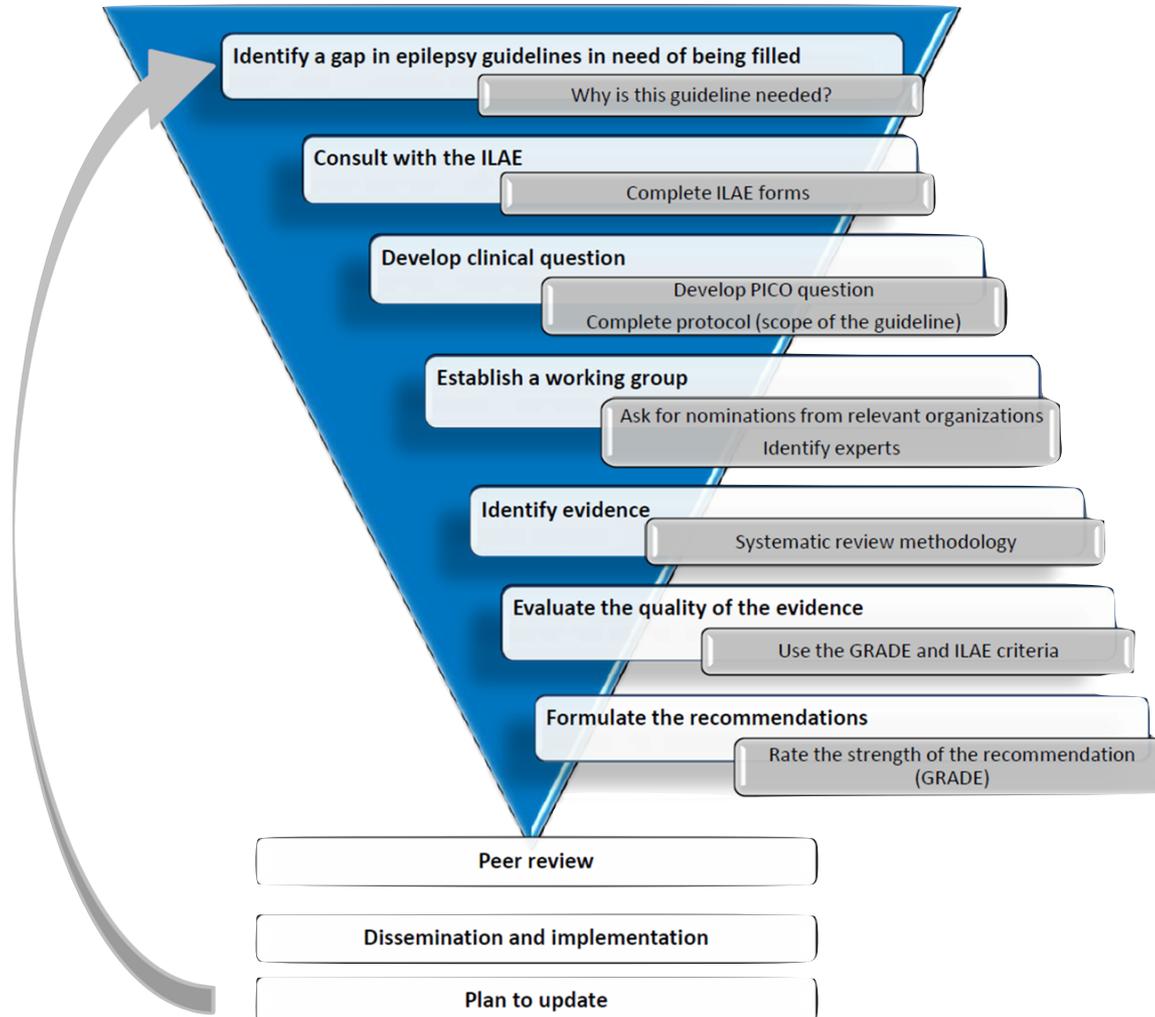


Open questions



- Should we treat subclinical seizures or only clinical?
 - Subclinical seizures associated with poor outcome (McBride 2002)
 - Treatment may improve outcome (van Rooij 2007; Glass 2009)
- Will treatment of neonatal seizures improve outcome?
 - Higher seizure burden associated with poor outcome (Kharoshankaya 2016)
- How long should we treat neonatal seizures?
 - No evidence that treatment beyond the neonatal period improves outcome (Guillet & Kwon 2007; Abend in press)

ILAE strategy for Guideline Development (Sauro et al 2015)



Timeline

Timelines: Year	2016		2017		2018		2019		2020	
Month	1-6	7-12								
Protocol approval										
Establish working group (1st <u>mtg</u>)										
Systematic Review										
Evidence Profiles (GRADE)			gos031781							
Draft guideline										
ILAE review draft guideline										
Public comment of draft guideline										
External review										
Modification to guideline										
ILAE approval and endorsement of guideline										
Electronic publication										➔