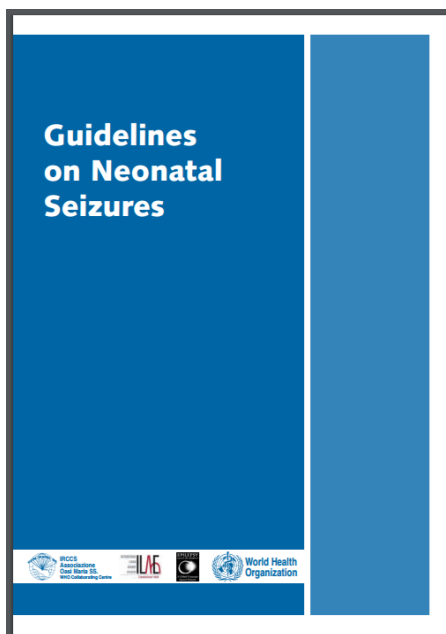




Where are we in the update of the guidelines for neonatal seizures?

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

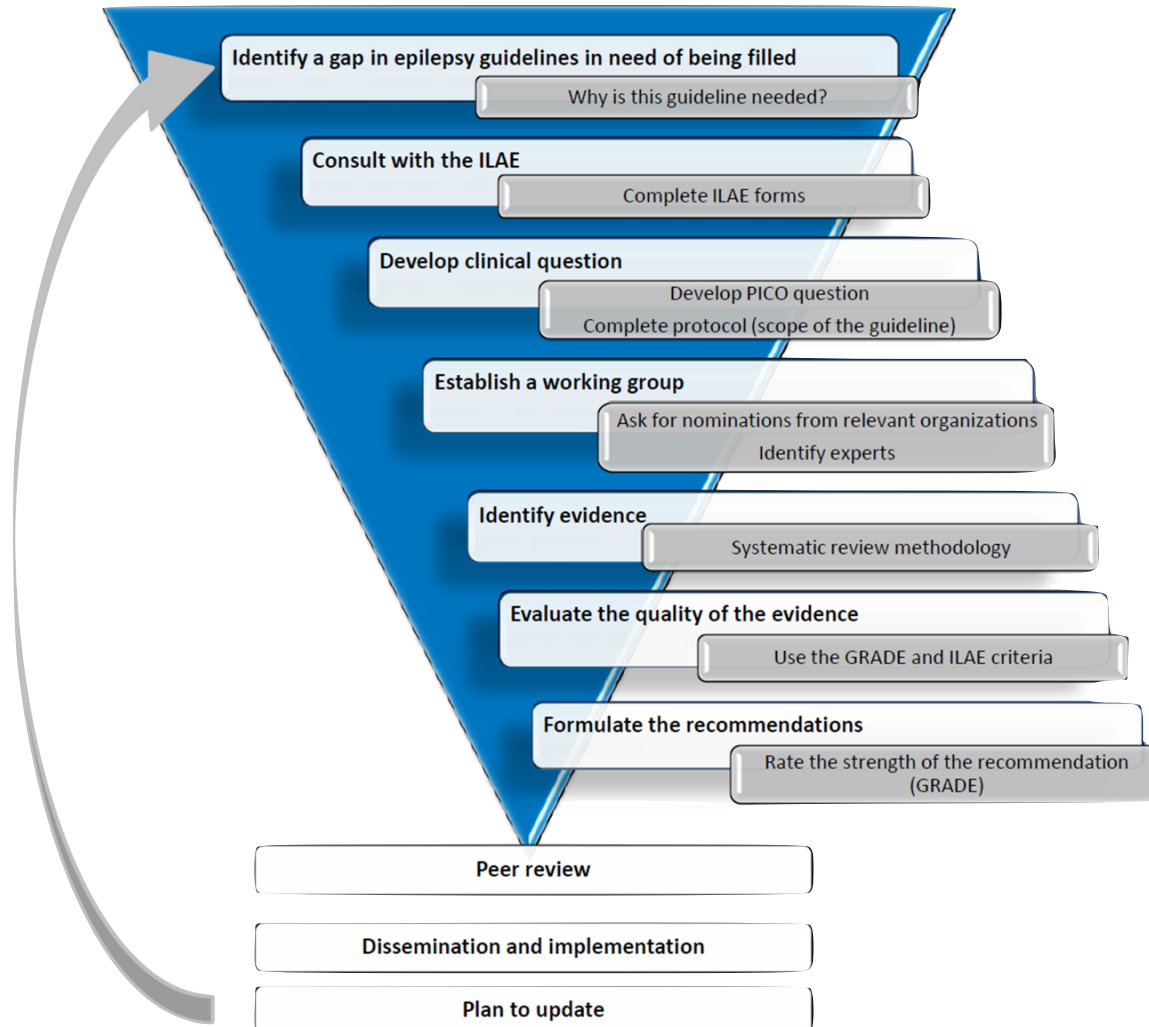


Open questions



- 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	1-6	7-12	1-6	7-12	1-6	7-12	1-6	7-12
Protocol approval										
Establish working group (1st mtg)										
Systematic Review										
Evidence Profiles (GRADE)										
Draft guideline										
ILAE review draft guideline										
Public comment of draft guideline										
External review										
Modification to guideline										
ILAE approval and endorsement of guideline										
Electronic publication										

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