

Neurodiverse Pediatric MRI



Three Problems:

- 1. Must ignore the loud noises
- 2. Must lie still
- 3. Must lie on your back

1. Loud noises? ZTE is Quiet



Normal Breathing	N Soft Rainfall	Normal Conversation	Ambient Scan room	Food Processor Grad	lient Echo MRI	Normal fMRI Ambulance Siren	Jet En Taking	gine off
O dB 20 dB	40 dB	Refrigerator 60 dB	Silent MRI 80 dB	100	dB	120ав	140 dв	160 dB



2. Must lie still? Motion Correction





3. Must lie on your back? Flexible Coils





Maravilla et al, ISMRM 2023

3. Must lie on your back? Flexible Coils

- Novel use of old technology (twisted pair)
- Not commercially available yet need to fabricate ourselves
- We will customize for different head sizes
- Precedent from EEG skull caps



J. Vliem, Y. Xiao, D. Wenz, L. Xin, and I. Zivkovic, 'Twisted Pair Transmission Line Coil- A Flexible, Self-Decoupled and Extremely Robust Element for 7T MRI'.

