Author(s): AT/VS Date: 2015-03-23 Question: Should simultaneous injection vs sequential injection be used for reducing vaccine injection pain in children >1-10 years? Settings: pediatric clinics Bibliography: Horn 1999

| Quality assessment | | | | | | No of patients | | Effect | | Quality | Importance | |
|---------------------|--------------------------------------|------------------------------|-----------------------------|----------------------------|----------------------|----------------------|--------------------------------|----------------------|----------------------|--|---------------------|----------|
| No of studies | Design | Risk of bias | Inconsistency | Indirectness | Imprecision | Other considerations | Simultaneous injection | Sequential injection | Relative (95% CI) | Absolute | | |
| Pain (me | asured with: | validated | tool (Wong FAC | ES scale 0-5) ; | Better indica | ated by lower valu | ies) | | <u></u> | | | |
| 1 | randomised trials | very serious ¹ | | no serious indirectness | serious ² | none | 24 | 20 | - | SMD 0.31 higher (0.29 lower to 0.9 higher) | ⊕OOO VERY LOW | CRITICAL |
| Distress values) | Acute + Reco | overy ³ (me | easured with: val | idated tool (Ob | oservation Sc | ale of Behavior I | Distress-Revised | , range unkno | own) by res | earcher; Better in | dicated I | by lower |
| | randomised trials | very serious ¹ | | no serious indirectness | serious ² | none | 24 | 22 | - | SMD 0.02 lower (0.6 lower to 0.55 higher) ³ | | IMPORTAN |
| | | | | | | | | | | | | |
| Distress | Acute + Reco | overy Unc | lear (measured v | vith: validated | tool (Visual A | Analog Scale 0-10 |) by parent; Bett | ter indicated | by lower va | lues) | | |
| | Acute + Reco randomised trials | very | no serious | vith: validated | tool (Visual A | Analog Scale 0-10 |) by parent; Bett 24 | ter indicated | by lower va | SMD 0.14 lower (0.71 lower to 0.44 higher) | ⊕000 VERY LOW | IMPORTAN |
| I | randomised trials | very serious ¹ | no serious inconsistency | no serious indirectness | serious ² | - | 24 | | by lower va | SMD 0.14 lower (0.71 lower to | VERY | IMPORTAN |

| 0 | No evidence | | none | - | - | - | - | IMPORTANT |
|---|-------------|--|------|---|----|---|---|-----------|
| | available | | | | | | | |
| | | | | | 0% | | - | |

¹ Immunizers, researchers, children and parents not blinded; outcome assessor not blinded and imbalance in baseline pre-injection measures; injection procedure not standardized (e.g., positioning, order of injection)

² Confidence interval crosses line of nonsignificance and sample size was below the recommended optimum information size (OIS) of 400 for an effect size of 0.2 ³ Data from 1 study (Horn 1999) included without standardization of scores to the same scale

⁴ Favours simultaneous injection

⁵ Sample size was below the recommended optimum information size (OIS) of 400 for an effect size of 0.2