Annex 2: Summary of findings tables

**EXPLANATIONS**

**GRADE Working Group grades of evidence**

- **High quality:** We are very confident that the true effect lies close to that of the estimate of the effect.
- **Moderate quality:** We are moderately confident in the effect estimate: The true effect is likely to be close to the estimate of the effect, but there is a possibility that it is substantially different.
- **Low quality:** Our confidence in the effect estimate is limited: The true effect may be substantially different from the estimate of the effect.
- **Very low quality:** We have very little confidence in the effect estimate: The true effect is likely to be substantially different from the estimate of the effect.

CI: Confidence Interval; RR: Risk Ratio; OR: Odds ratio

**SUMMARY OF FINDINGS TABLES 1 – 51**

### 1 Pre-treatment with oestradiol compared to no intervention in GnRH antagonist cycles

**Patient or population:** women undergoing OS for IVF/ICSI  
**Intervention:** pre-treatment with oestradiol in GnRH antagonist cycles  
**Comparison:** no intervention

<table>
<thead>
<tr>
<th>Outcomes</th>
<th>Anticipated absolute effects* (95% CI)</th>
<th>Relative effect (95% CI)</th>
<th>No of participants (studies)</th>
<th>Certainty of the evidence (GRADE)</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Risk with no intervention</td>
<td>Risk with pre-treatment with oestradiol</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cumulative LBR</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>LBR/ongoing PR</td>
<td>299 per 1,000 (185 to 333)</td>
<td>252 per 1,000 (185 to 333)</td>
<td>OR 0.79 (0.53 to 1.17)</td>
<td>502 (2 RCTs)</td>
<td>⨁◯◯◯ LOW a,b,c</td>
</tr>
<tr>
<td>(Farquhar, et al., 2017)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>OHSS</td>
<td>0 per 1,000 (0 to 0)</td>
<td>0 per 1,000 (0 to 0)</td>
<td>not estimable</td>
<td>133 (1 RCT)</td>
<td>⨁◯◯◯ VERY LOW b,d,e</td>
</tr>
<tr>
<td>(Shahrokh Tehrani Nejad, et al., 2018)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*The risk in the intervention group (and its 95% confidence interval) is based on the assumed risk in the comparison group and the relative effect of the intervention (and its 95% CI).*

- **a.** High risk of bias associated with poor reporting of methods in one or more primary studies.
- **b.** Small number of events.
- **c.** The pooled effect included the line of no effect.
- **d.** Serious risk of bias because of 24% of patients lost to follow-up in the study group.
- **e.** Serious inconsistency because only 1 RCT.
### Pre-treatment with progesterone compared to placebo or no intervention in GnRH agonist cycles

**Patient or population:** women undergoing OS for IVF/ICSI  
**Intervention:** pre-treatment with progesterone in GnRH agonist cycles  
**Comparison:** placebo or no intervention

<table>
<thead>
<tr>
<th>Outcomes</th>
<th>Anticipated absolute effects* (95% CI)</th>
<th>Relative effect (95% CI)</th>
<th>No of participants (studies)</th>
<th>Certainty of the evidence (GRADE)</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Risk with placebo or no intervention</td>
<td>Risk with pre-treatment with progesterone</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cumulative LBR</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>LBR/ongoing PR (GnRH agonist cycles) (Farquhar, et al., 2017)</td>
<td>170 per 1,000 (124 to 351)</td>
<td>OR 1.35 (0.69 to 2.65)</td>
<td>222 (2 RCTs)</td>
<td>⬠⬠◯◯</td>
<td>LOW a,b,c</td>
</tr>
<tr>
<td>LBR/ongoing PR (GnRH antagonist cycles) (Farquhar, et al., 2017)</td>
<td>292 per 1,000 (69 to 511)</td>
<td>OR 0.67 (0.18 to 2.54)</td>
<td>47 (1 RCT)</td>
<td>⬠◯◯◯</td>
<td>VERY LOW a,b,c,d</td>
</tr>
</tbody>
</table>

*The risk in the intervention group (and its 95% confidence interval) is based on the assumed risk in the comparison group and the relative effect of the intervention (and its 95% CI).

- a. High risk of bias associated with poor reporting of methods in the primary studies.
- b. Small number of events.
- c. The pooled effect included the line of no effect.
- d. Serious inconsistency because only 1 RCT.

### Pre-treatment with progesterone compared to placebo or no treatment in GnRH antagonist cycles

**Patient or population:** women undergoing OS for IVF/ICSI  
**Intervention:** pre-treatment with progesterone in GnRH antagonist cycles  
**Comparison:** placebo or no treatment

<table>
<thead>
<tr>
<th>Outcomes</th>
<th>Anticipated absolute effects* (95% CI)</th>
<th>Relative effect (95% CI)</th>
<th>No of participants (studies)</th>
<th>Certainty of the evidence (GRADE)</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Risk with placebo or no treatment</td>
<td>Risk with pre-treatment with progesterone</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cumulative LBR</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>LBR/ongoing PR (Farquhar, et al., 2017)</td>
<td>292 per 1,000 (69 to 511)</td>
<td>OR 0.67 (0.18 to 2.54)</td>
<td>47 (1 RCT)</td>
<td>⬠◯◯◯</td>
<td>VERY LOW a,b,c,d</td>
</tr>
</tbody>
</table>

*The risk in the intervention group (and its 95% confidence interval) is based on the assumed risk in the comparison group and the relative effect of the intervention (and its 95% CI).

- a. High risk of bias associated with poor reporting of methods in one or more of the primary studies.
- b. Serious inconsistency because only 1 RCT.
- c. Very small number of events.
- d. Wide confidence interval, which crosses the line of no effect and appreciable benefit or harm.
### 3a Pre-treatment with combined contraceptives compared to no intervention in GnRH antagonist cycles

**Patient or population:** women undergoing OS for IVF/ICSI  
**Intervention:** pre-treatment with combined contraceptives in GnRH antagonist cycles  
**Comparison:** no intervention

<table>
<thead>
<tr>
<th>Outcomes</th>
<th>Anticipated absolute effects* (95% CI)</th>
<th>Relative effect (95% CI)</th>
<th>No of participants (studies)</th>
<th>Certainty of the evidence (GRADE)</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Risk with no intervention</td>
<td>Risk with pre-treatment with COCP</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cumulative LBR</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Not reported</td>
</tr>
<tr>
<td>LBR/ongoing PR</td>
<td>270 per 1,000</td>
<td>215 per 1,000 (177 to 260)</td>
<td>OR 0.74 (0.58 to 0.95)</td>
<td>1335 (6 RCTs)</td>
<td>★★★◯ ◯ ◯ MODERATE a</td>
</tr>
<tr>
<td>OHSS</td>
<td>16 per 1,000 (4 to 52)</td>
<td>OR 0.98 (0.28 to 3.40)</td>
<td>642 (2 RCTs)</td>
<td>★★★◯ ◯ ◯ LOW a,b,c</td>
<td></td>
</tr>
<tr>
<td>OHSS</td>
<td>0 per 1,000 (0 to 0)</td>
<td>not estimable</td>
<td>123 (1 RCT)</td>
<td>★◯◯◯ ◯ ◯ ◯ VERY LOW a,b,c</td>
<td></td>
</tr>
</tbody>
</table>

*The risk in the intervention group (and its 95% confidence interval) is based on the assumed risk in the comparison group and the relative effect of the intervention (and its 95% CI).

a. Serious risk of bias due to poor reporting of sequence generation and allocation concealment.  
b. Small number of events.  
c. The pooled effect included the line of no effect  
d. Serious risk of bias due to 24% lost to follow-up in the study group  
e. Serious inconsistency because only 1 RCT

### 3b Pre-treatment with combined contraceptives compared to no pre-treatment in poor responders

**Patient or population:** poor responder women undergoing OS for IVF/ICSI  
**Intervention:** pre-treatment with combined contraceptives  
**Comparison:** no pre-treatment

<table>
<thead>
<tr>
<th>Outcomes</th>
<th>Anticipated absolute effects* (95% CI)</th>
<th>Relative effect (95% CI)</th>
<th>No of participants (studies)</th>
<th>Certainty of the evidence (GRADE)</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Risk with no pre-treatment</td>
<td>Risk with pre-treatment with combined contraceptives</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cumulative LBR</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Not reported</td>
</tr>
<tr>
<td>Live birth rate</td>
<td>200 per 1,000</td>
<td>0 per 1,000 (0 to 0)</td>
<td>not estimable</td>
<td>80 (1 RCT)</td>
<td>★◯◯◯ ◯ ◯ ◯ VERY LOW a,b,c</td>
</tr>
</tbody>
</table>

*The risk in the intervention group (and its 95% confidence interval) is based on the assumed risk in the comparison group and the relative effect of the intervention (and its 95% CI).

a. Serious risk of performance bias  
b. Serious inconsistency because only 1 RCT  
c. Small number of events
### 4a Pre-treatment with GnRH antagonist compared to no pre-treatment in GnRH antagonist protocols

**Patient or population:** women undergoing OS for IVF/ICSI

**Intervention:** pre-treatment with GnRH antagonist

**Comparison:** no pre-treatment

<table>
<thead>
<tr>
<th>Outcomes</th>
<th>Anticipated absolute effects* (95% CI)</th>
<th>Relative effect (95% CI)</th>
<th>№ of participants (studies)</th>
<th>Certainty of the evidence (GRADE)</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Risk with no pre-treatment</td>
<td>Risk with pre-treatment with GnRH antagonist</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Risk with no pre-treatment</td>
<td>Risk with pre-treatment with GnRH antagonist</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ongoing PR</td>
<td>333 per 1,000 (0 to 0)</td>
<td>0 per 1,000 (0 to 0)</td>
<td>not estimable</td>
<td>69 (1 RCT)</td>
<td>▫▫▫▫▫ LOW a,b</td>
</tr>
</tbody>
</table>

*The risk in the intervention group (and its 95% confidence interval) is based on the assumed risk in the comparison group and the relative effect of the intervention (and its 95% CI).

- a. Serious inconsistency because only 1 RCT
- b. Small number of events

### 4b Pre-treatment with GnRH antagonist compared to no pre-treatment in GnRH antagonist protocols in poor responders

**Patient or population:** poor responder women undergoing OS for IVF/ICSI

**Intervention:** pre-treatment with GnRH antagonist

**Comparison:** no pre-treatment

<table>
<thead>
<tr>
<th>Outcomes</th>
<th>Anticipated absolute effects* (95% CI)</th>
<th>Relative effect (95% CI)</th>
<th>№ of participants (studies)</th>
<th>Certainty of the evidence (GRADE)</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Risk with no pre-treatment</td>
<td>Risk with pre-treatment with GnRH antagonist</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Risk with no pre-treatment</td>
<td>Risk with pre-treatment with GnRH antagonist</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Live birth rate (DiLuigi, et al., 2011)</td>
<td>250 per 1,000 (0 to 0)</td>
<td>0 per 1,000 (0 to 0)</td>
<td>not estimable</td>
<td>54 (1 RCT)</td>
<td>▫▫▫▫▫ VERY LOW a,b,c</td>
</tr>
<tr>
<td>Clinical PR (Maged, et al., 2015)</td>
<td>100 per 1,000 (0 to 0)</td>
<td>0 per 1,000 (0 to 0)</td>
<td>not estimable</td>
<td>160 (1 RCT)</td>
<td>▫▫▫▫▫ VERY LOW b,c,d</td>
</tr>
<tr>
<td>Clinical PR (Afatoonian, et al., 2017)</td>
<td>33 per 1,000 (0 to 0)</td>
<td>0 per 1,000 (0 to 0)</td>
<td>not estimable</td>
<td>60 (1 RCT)</td>
<td>▫▫▫▫▫ VERY LOW a,b,c</td>
</tr>
</tbody>
</table>

*The risk in the intervention group (and its 95% confidence interval) is based on the assumed risk in the comparison group and the relative effect of the intervention (and its 95% CI).

- a. Serious risk of bias due to poor reporting of methodology
- b. Serious inconsistency because only 1 RCT
- c. Small number of events
- d. Serious risk of performance bias
5  GnRH antagonist compared to long GnRH agonist for LH suppression in high responders

Patient or population: high responder women undergoing OS for IVF/ICSI
Intervention: GnRH antagonist protocol
Comparison: long GnRH agonist protocol

<table>
<thead>
<tr>
<th>Outcomes</th>
<th>Anticipated absolute effects* (95% CI)</th>
<th>Relative effect (95% CI)</th>
<th>No of participants (studies)</th>
<th>Certainty of the evidence (GRADE)</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Risk with long GnRH agonist</td>
<td>Risk with GnRH antagonist</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cumulative LBR</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Live birth rate (Lambalk, et al., 2017)</td>
<td>387 per 1,000</td>
<td>348 per 1,000 (267 to 460)</td>
<td>RR 0.90 (0.69 to 1.19)</td>
<td>363 (3 RCTs)</td>
<td>⬤⬸城市建设</td>
</tr>
<tr>
<td>OHSS (Lambalk, et al., 2017)</td>
<td>124 per 1,000</td>
<td>66 per 1,000 (37 to 118)</td>
<td>RR 0.53 (0.30 to 0.95)</td>
<td>1294 (9 RCTs)</td>
<td>⬤⬸城市建设</td>
</tr>
<tr>
<td>OHSS (Trenkic, et al., 2016)</td>
<td>156 per 1,000</td>
<td>0 per 1,000 (0 to 0)</td>
<td>not estimable</td>
<td>90 (1 RCT)</td>
<td>⬤⬸城市建设</td>
</tr>
<tr>
<td>Moderate/severe OHSS (Shin, et al., 2018)</td>
<td>273 per 1,000</td>
<td>0 per 1,000 (0 to 0)</td>
<td>not estimable</td>
<td>22 (1 RCT)</td>
<td>⬤⬸城市建设</td>
</tr>
</tbody>
</table>

*The risk in the intervention group (and its 95% confidence interval) is based on the assumed risk in the comparison group and the relative effect of the intervention (and its 95% CI).

a. The pooled effect included the line of no effect
b. Small number of events
c. Serious risk of bias due to poor reporting of methodology in primary studies
d. Small number of events, wide confidence intervals
e. Serious risk of performance and detection bias
f. Serious inconsistency because only 1 RCT
g. Risk of performance bias.

6  Reduced-dose gonadotropin compared to conventional gonadotropin dose in high responders

Patient or population: high responder women undergoing OS for IVF/ICSI
Intervention: reduced-dose gonadotropin
Comparison: conventional gonadotropin dose

<table>
<thead>
<tr>
<th>Outcomes</th>
<th>Anticipated absolute effects* (95% CI)</th>
<th>Relative effect (95% CI)</th>
<th>No of participants (studies)</th>
<th>Certainty of the evidence (GRADE)</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Risk with conventional gonadotropin dose</td>
<td>Risk with reduced-dose gonadotropin</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cumulative LBR (Oudshoorn, et al., 2017)</td>
<td>695 per 1,000</td>
<td>663 per 1,000 (591 to 744)</td>
<td>RR 0.953 (0.850 to 1.070)</td>
<td>521 (1 RCT)</td>
<td>⬤⬸城市建设</td>
</tr>
<tr>
<td>Severe OHSS (Oudshoorn, et al., 2017)</td>
<td>11 per 1,000</td>
<td>0 per 1,000 (0 to 0)</td>
<td>not estimable</td>
<td>519 (1 RCT)</td>
<td>⬤⬸城市建设</td>
</tr>
</tbody>
</table>

*The risk in the intervention group (and its 95% confidence interval) is based on the assumed risk in the comparison group and the relative effect of the intervention (and its 95% CI).

a. Serious risk of performance bias
b. Serious inconsistency because only 1 RCT
c. The pooled effect included the line of no effect
d. Small event rate
### 7 GnRH antagonist compared to long GnRH agonist for LH suppression in normal responders

**Patient or population:** normal responder women undergoing OS for IVF/ICSI

**Intervention:** GnRH antagonist protocol

**Comparison:** long GnRH agonist protocol

<table>
<thead>
<tr>
<th>Outcomes</th>
<th>Anticipated absolute effects* (95% CI)</th>
<th>Relative effect (95% CI)</th>
<th>No of participants (studies)</th>
<th>Certainty of the evidence (GRADE)</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Risk with long GnRH agonist</td>
<td>Risk with GnRH antagonist</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cumulative LBR</td>
<td>Not reported</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Live birth rate</td>
<td>241 per 1,000 (190 to 251)</td>
<td>RR 0.91 (0.79 to 1.04)</td>
<td>2590 (10 RCTs)</td>
<td>LOW a,b</td>
<td></td>
</tr>
<tr>
<td>(Lambalk, et al., 2017)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>OHSS</td>
<td>62 per 1,000 (31 to 50)</td>
<td>RR 0.63 (0.50 to 0.81)</td>
<td>5598 (22 RCTs)</td>
<td>MODERATE a</td>
<td></td>
</tr>
<tr>
<td>(Lambalk, et al., 2017)</td>
<td></td>
<td></td>
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<td></td>
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</tr>
</tbody>
</table>

*The risk in the intervention group (and its 95% confidence interval) is based on the assumed risk in the comparison group and the relative effect of the intervention (and its 95% CI).*

a. Serious risk of bias due to poor reporting of methodology
b. The pooled effect included both the line of no effect and appreciable benefit or harm

### 8 Letrozole in stimulation protocol for IVF/ICSI in normal responders

**Patient or population:** normal responder women undergoing OS for IVF/ICSI

**Intervention:** letrozole addition to gonadotropins

**Comparison:** gonadotropins alone

<table>
<thead>
<tr>
<th>Outcomes</th>
<th>Anticipated absolute effects* (95% CI)</th>
<th>Relative effect (95% CI)</th>
<th>No of participants (studies)</th>
<th>Certainty of the evidence (GRADE)</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Risk with no letrozole</td>
<td>Risk with letrozole</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cumulative LBR</td>
<td>Not reported</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ongoing PR</td>
<td>200 per 1,000 (0 to 0)</td>
<td>not estimable</td>
<td>20 (1 RCT)</td>
<td>VERY LOW a,b,c</td>
<td></td>
</tr>
<tr>
<td>(Verpoest, et al., 2006)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Clinical pregnancy rate</td>
<td>327 per 1,000 (0 to 0)</td>
<td>not estimable</td>
<td>94 (1 RCT)</td>
<td>VERY LOW b,c,d</td>
<td></td>
</tr>
<tr>
<td>(Mukherjee, et al., 2012)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>OHSS</td>
<td>135 per 1,000 (0 to 0)</td>
<td>not estimable</td>
<td>94 (1 RCT)</td>
<td>VERY LOW b,c,d</td>
<td></td>
</tr>
<tr>
<td>(Mukherjee, et al., 2012)</td>
<td></td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>

*The risk in the intervention group (and its 95% confidence interval) is based on the assumed risk in the comparison group and the relative effect of the intervention (and its 95% CI).*

a. Serious risk of performance bias
b. Serious inconsistency because only 1 RCT
c. Small number of events
d. Serious risk of bias due to incomplete reporting of methodology
### 9a Reduced FSH dose compared to conventional gonadotropin dose in normal responders

**Patient or population:** normal responder women undergoing OS for IVF/ICSI  
**Intervention:** reduced gonadotropin dose  
**Comparison:** conventional gonadotropin dose

<table>
<thead>
<tr>
<th>Outcomes</th>
<th>Anticipated absolute effects* (95% CI)</th>
<th>Relative effect (95% CI)</th>
<th>No of participants (studies)</th>
<th>Certainty of the evidence (GRADE)</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Risk with normal FSH dose</td>
<td>Risk with reduced FSH dose</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>OHSS</td>
<td>0 per 1,000 (0 to 0)</td>
<td>OR 0.58 (0.18 to 1.90)</td>
<td>(5 RCTs)</td>
<td>□□ □□ LOW a,b</td>
<td></td>
</tr>
<tr>
<td>Clinical pregnancy rate</td>
<td>0 per 1,000 (0 to 0)</td>
<td>OR 0.95 (0.69 to 1.30)</td>
<td>(5 RCTs)</td>
<td>□□ □□ LOW a,b</td>
<td></td>
</tr>
</tbody>
</table>

*The risk in the intervention group (and its 95% confidence interval) is based on the assumed risk in the comparison group and the relative effect of the intervention (and its 95% CI).  

a. Serious risk of bias due to poor reporting of methodology  

b. The pooled effect included both the line of no effect and appreciable benefit or harm

### 9b Late-start FSH compared to conventional start gonadotropin in normal responders

**Patient or population:** normal responder women undergoing OS for IVF/ICSI  
**Intervention:** late-start gonadotropin  
**Comparison:** conventional start gonadotropin

<table>
<thead>
<tr>
<th>Outcomes</th>
<th>Anticipated absolute effects* (95% CI)</th>
<th>Relative effect (95% CI)</th>
<th>No of participants (studies)</th>
<th>Certainty of the evidence (GRADE)</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Risk with conventional start FSH</td>
<td>Risk with late-start FSH</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ongoing PR</td>
<td>171 per 1,000 (0 to 0)</td>
<td>not estimable</td>
<td>104 (1 RCT)</td>
<td>□□□□□ VERY LOW a,b,c</td>
<td></td>
</tr>
<tr>
<td>Ongoing PR</td>
<td>278 per 1,000 (0 to 0)</td>
<td>not estimable</td>
<td>76 (1 RCT)</td>
<td>□□□□□ VERY LOW a,b,c</td>
<td></td>
</tr>
<tr>
<td>Ongoing PR</td>
<td>167 per 1,000 (0 to 0)</td>
<td>not estimable</td>
<td>97 (1 RCT)</td>
<td>□□□□□ VERY LOW a,b,c</td>
<td></td>
</tr>
</tbody>
</table>

*The risk in the intervention group (and its 95% confidence interval) is based on the assumed risk in the comparison group and the relative effect of the intervention (and its 95% CI).  

a. Serious risk of performance bias  

b. Serious inconsistency because only one RCT  
c. Low number of events

---

The risk in the intervention group (and its 95% confidence interval) is based on the assumed risk in the comparison group and the relative effect of the intervention (and its 95% CI).  

a. Serious risk of bias due to poor reporting of methodology  

b. The pooled effect included both the line of no effect and appreciable benefit or harm  

c. Serious inconsistency because only one RCT  

d. Low number of events
### 10a  GnRH antagonist compared to long GnRH agonist for LH suppression in low responders

**Patient or population:** Low responder women undergoing OS for IVF/ICSI  
**Intervention:** GnRH antagonist  
**Comparison:** Long GnRH agonist

<table>
<thead>
<tr>
<th>Outcomes</th>
<th>Anticipated absolute effects* (95% CI)</th>
<th>Relative effect (95% CI)</th>
<th>№ of participants (studies)</th>
<th>Certainty of the evidence (GRADE)</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Risk with long GnRH agonist</td>
<td>Risk with GnRH antagonist</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cumulative LBR</td>
<td>Live birth rate (Lambalk, et al., 2017)</td>
<td>212 per 1,000 (133 to 336)</td>
<td>RR 0.89 (0.56 to 1.41)</td>
<td>544 (3 RCTs)</td>
<td>LOW a,b</td>
</tr>
</tbody>
</table>

*a The risk in the intervention group (and its 95% confidence interval) is based on the assumed risk in the comparison group and the relative effect of the intervention (and its 95% CI).  

1. Serious risk of bias due to poor reporting of methodology in primary studies  
2. The pooled effect included both the line of no effect and appreciable benefit or harm

### 10b  GnRH antagonist compared to short GnRH agonist for LH suppression in low responders

**Patient or population:** Low responder women undergoing OS for IVF/ICSI  
**Intervention:** GnRH antagonist  
**Comparison:** Short GnRH agonist

<table>
<thead>
<tr>
<th>Outcomes</th>
<th>Anticipated absolute effects* (95% CI)</th>
<th>Relative effect (95% CI)</th>
<th>№ of participants (studies)</th>
<th>Certainty of the evidence (GRADE)</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Risk with short GnRH agonist</td>
<td>Risk with GnRH antagonist</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cumulative LBR</td>
<td>Clinical pregnancy rate (Xiao, et al., 2013)</td>
<td>187 per 1,000 (132 to 258)</td>
<td>OR 1.33 (0.88 to 2.01)</td>
<td>735 (7 RCTs)</td>
<td>LOW a,b</td>
</tr>
</tbody>
</table>

*a The risk in the intervention group (and its 95% confidence interval) is based on the assumed risk in the comparison group and the relative effect of the intervention (and its 95% CI).  

1. Serious risk of bias due to poor reporting of methodology in primary studies  
2. The pooled effect included both the line of no effect and appreciable benefit or harm

### 11a  Clomiphene citrate compared to FSH for ovarian stimulation in low responders

**Patient or population:** Low responder women undergoing OS for IVF/ICSI  
**Intervention:** Clomiphene citrate  
**Comparison:** FSH

<table>
<thead>
<tr>
<th>Outcomes</th>
<th>Anticipated absolute effects* (95% CI)</th>
<th>Relative effect (95% CI)</th>
<th>№ of participants (studies)</th>
<th>Certainty of the evidence (GRADE)</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Risk with FSH</td>
<td>Risk with clomiphene citrate</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cumulative LBR</td>
<td>Live birth rate (Ragni, et al., 2012)</td>
<td>35 per 1,000 (11 to 106)</td>
<td>RR 0.72 (0.23 to 2.21)</td>
<td>291 (1 RCT)</td>
<td>LOW a,b</td>
</tr>
</tbody>
</table>

*a The risk in the intervention group (and its 95% confidence interval) is based on the assumed risk in the comparison group and the relative effect of the intervention (and its 95% CI).  

1. Serious inconsistency because only 1 RCT  
2. Very small number of events, wide confidence interval
### 11b Clomiphene citrate in stimulation protocols for low responders

**Patient or population**: low responder women undergoing OS for IVF/ICSI  
**Intervention**: clomiphene citrate addition to gonadotropins  
**Comparison**: no clomiphene citrate

<table>
<thead>
<tr>
<th>Outcomes</th>
<th>Anticipated absolute effects* (95% CI)</th>
<th>Relative effect (95% CI)</th>
<th>№ of participants (studies)</th>
<th>Certainty of the evidence (GRADE)</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Risk with no clomiphene citrate</td>
<td>Risk with clomiphene citrate</td>
<td>RR 0.88 (0.62 to 1.26)</td>
<td>874 (3 RCTs)</td>
<td>LOW a,b</td>
</tr>
</tbody>
</table>

**Cumulative LBR**  
Not reported

<table>
<thead>
<tr>
<th>Live birth rate (Bechtejew, et al., 2017)</th>
<th>Risk with no clomiphene citrate</th>
<th>Risk with clomiphene citrate</th>
<th>RR 0.88 (0.62 to 1.26)</th>
<th>874 (3 RCTs)</th>
<th>LOW a,b</th>
</tr>
</thead>
<tbody>
<tr>
<td>131 per 1,000 (81 to 164)</td>
<td>115 per 1,000</td>
<td>874 (3 RCTs)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*The risk in the intervention group (and its 95% confidence interval) is based on the assumed risk in the comparison group and the relative effect of the intervention (and its 95% CI).*

a. Serious risk of bias due to poor reporting of methodology in primary studies  
b. The pooled effect included both the line of no effect and appreciable benefit or harm

### 12 Letrozole in stimulation protocols for low responders

**Patient or population**: low responder women undergoing OS for IVF/ICSI  
**Intervention**: letrozole addition to gonadotropins  
**Comparison**: gonadotropins alone

<table>
<thead>
<tr>
<th>Outcomes</th>
<th>Anticipated absolute effects* (95% CI)</th>
<th>Relative effect (95% CI)</th>
<th>№ of participants (studies)</th>
<th>Certainty of the evidence (GRADE)</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Risk with no letrozole</td>
<td>Risk with letrozole</td>
<td>RR 0.94 (0.43 to 2.03)</td>
<td>155 (2 RCTs)</td>
<td>LOW a,b</td>
</tr>
<tr>
<td>Clinical pregnancy rate (Bechtejew, et al., 2017)</td>
<td>152 per 1,000 (65 to 309)</td>
<td>143 per 1,000 (65 to 309)</td>
<td>155 (2 RCTs)</td>
<td></td>
<td>LOW a,b</td>
</tr>
<tr>
<td>Clinical pregnancy rate (Ebrahimi, et al., 2017)</td>
<td>114 per 1,000 (0 to 0)</td>
<td>0 per 1,000 (0 to 0)</td>
<td>not estimable</td>
<td>70 (1 RCT)</td>
<td>LOW c,d</td>
</tr>
<tr>
<td>Clinical pregnancy rate (Eftekhar, et al., 2014)</td>
<td>88 per 1,000 (0 to 0)</td>
<td>0 per 1,000 (0 to 0)</td>
<td>not estimable</td>
<td>167 (1 RCT)</td>
<td>VERY LOW c,d,e</td>
</tr>
</tbody>
</table>

*The risk in the intervention group (and its 95% confidence interval) is based on the assumed risk in the comparison group and the relative effect of the intervention (and its 95% CI).*

a. The pooled effect included both the line of no effect and appreciable benefit or harm  
b. Very low number of events, wide confidence intervals  
c. Serious inconsistency because only 1 RCT  
d. Low number of events  
e. Serious risk of performance and attrition bias
### 13 150 IU compared to 300/450 IU for low responder women

**Patient or population:** low responder women undergoing OS for IVF/ICSI  
**Intervention:** 150IU dose gonadotropins  
**Comparison:** 300/450IU dose gonadotropins

<table>
<thead>
<tr>
<th>Outcomes</th>
<th>Anticipated absolute effects* (95% CI)</th>
<th>Relative effect (95% CI)</th>
<th>No of participants (studies)</th>
<th>Certainty of the evidence (GRADE)</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Risk with 300/450IU</td>
<td>Risk with 150IU</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cumulative LBR</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>LBR/ongoing PR</td>
<td>109 per 1,000</td>
<td>80 per 1,000</td>
<td>OR 0.71 (0.32 to 1.58)</td>
<td>286 (2 RCTs)</td>
<td>☐ ☐ʊʊ LOW  a,b</td>
</tr>
<tr>
<td>(Lensen, et al., 2017)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>OHSS</td>
<td>0 per 1,000</td>
<td>0 per 1,000</td>
<td>not estimable</td>
<td>286 (2 RCTs)</td>
<td>☐ ☐ʊʊ LOW  a,b</td>
</tr>
<tr>
<td>(Lensen, et al., 2017)</td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>

*The risk in the intervention group (and its 95% confidence interval) is based on the assumed risk in the comparison group and the relative effect of the intervention (and its 95% CI).

CI: Confidence interval; OR: Odds ratio

a. Serious risk of bias due to incomplete reporting of methodology in individual studies  
b. The pooled effect included both the line of no effect and appreciable benefit or harm

### 14a 300 IU compared to 400/450 IU for low responder women

**Patient or population:** low responder women undergoing OS for IVF/ICSI  
**Intervention:** 300IU dose gonadotropins  
**Comparison:** 400/450IU dose gonadotropins

<table>
<thead>
<tr>
<th>Outcomes</th>
<th>Anticipated absolute effects* (95% CI)</th>
<th>Relative effect (95% CI)</th>
<th>No of participants (studies)</th>
<th>Certainty of the evidence (GRADE)</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Risk with 400/450IU</td>
<td>Risk with 300IU</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cumulative LBR</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ongoing PR</td>
<td>161 per 1,000</td>
<td>129 per 1,000</td>
<td>OR 0.77 (0.19 to 3.19)</td>
<td>62 (1 RCT)</td>
<td>☬ ☬ ☬ ☬ VERY LOW  a,b,c</td>
</tr>
<tr>
<td>(Lensen, et al., 2017)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>OHSS</td>
<td>0 per 1,000</td>
<td>0 per 1,000</td>
<td>not estimable</td>
<td>62 (1 RCT)</td>
<td>☬ ☬ ☬ ☬ VERY LOW  a,b,c</td>
</tr>
<tr>
<td>(Lensen, et al., 2017)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*The risk in the intervention group (and its 95% confidence interval) is based on the assumed risk in the comparison group and the relative effect of the intervention (and its 95% CI).

a. Serious risk of bias due to incomplete reporting of methodology  
b. Serious inconsistency because only 1 RCT  
c. The pooled effect included both the line of no effect and appreciable benefit or harm
### 14b 450IU compared to 600IU for low responder women

**Patient or population:** low responder women undergoing OS for IVF/ICSI  
**Intervention:** 450IU dose gonadotropins  
**Comparison:** 600IU dose gonadotropins

<table>
<thead>
<tr>
<th>Outcomes</th>
<th>Anticipated absolute effects* (95% CI)</th>
<th>Relative effect (95% CI)</th>
<th>No of participants (studies)</th>
<th>Certainty of the evidence (GRADE)</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Risk with 600IU</td>
<td>Risk with 450IU</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Live birth rate</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(Lensen, et al., 2017)</td>
<td>108 per 1,000</td>
<td>139 per 1,000 (79 to 234)</td>
<td>OR 1.33 (0.71 to 2.52)</td>
<td>356 (1 RCT)</td>
<td>●○○○○ VERY LOW a,b,c</td>
</tr>
<tr>
<td>OHSS</td>
<td>0 per 1,000</td>
<td>0 per 1,000 (0 to 0)</td>
<td>OR 7.23 (0.14 to 364.29)</td>
<td>356 (1 RCT)</td>
<td>●○○○○ VERY LOW a,b,c</td>
</tr>
</tbody>
</table>

*The risk in the intervention group (and its 95% confidence interval) is based on the assumed risk in the comparison group and the relative effect of the intervention (and its 95% CI).*

a. Serious risk of bias due to incomplete reporting of methodology  
b. Serious inconsistency because only 1 RCT  
c. The pooled effect included both the line of no effect and appreciable benefit or harm

### 15 Modified natural cycle compared to standard stimulation protocol in poor responders

**Patient or population:** low responder women undergoing OS for IVF/ICSI  
**Intervention:** modified natural cycle  
**Comparison:** standard stimulation protocol

<table>
<thead>
<tr>
<th>Outcomes</th>
<th>Anticipated absolute effects* (95% CI)</th>
<th>Relative effect (95% CI)</th>
<th>No of participants (studies)</th>
<th>Certainty of the evidence (GRADE)</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Risk with standard</td>
<td>Risk with modified</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>stimulation protocol</td>
<td>natural cycle</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pregnancy rate</td>
<td>(Morgia, et al., 2004)</td>
<td>69 per 1,000</td>
<td>0 per 1,000 (0 to 0)</td>
<td>215 (1 RCT)</td>
<td>●○○○○ VERY LOW a,b,c</td>
</tr>
</tbody>
</table>

*The risk in the intervention group (and its 95% confidence interval) is based on the assumed risk in the comparison group and the relative effect of the intervention (and its 95% CI).*

a. Serious risk of bias due to poor reporting of methodology  
b. Serious inconsistency because only 1 RCT  
c. Small number of events
### 16a Long versus short GnRH agonist protocol for LH surge suppression

**Patient or population:** women undergoing OS for IVF/ICSI  
**Intervention:** long GnRH agonist protocol  
**Comparison:** short GnRH agonist protocol

<table>
<thead>
<tr>
<th>Outcomes</th>
<th>Anticipated absolute effects* (95% CI)</th>
<th>Relative effect (95% CI)</th>
<th>№ of participants (studies)</th>
<th>Certainty of the evidence (GRADE)</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cumulative LBR</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Not reported</td>
</tr>
<tr>
<td>Live birth rate (Siristatidis, et al., 2015)</td>
<td>134 per 1,000</td>
<td>199 per 1,000 (116 to 320)</td>
<td>OR 1.60 (0.85 to 3.03)</td>
<td>295 (4 RCTs)</td>
<td>⬤⬤◯◯ LOW a,b,c</td>
</tr>
</tbody>
</table>

*a The risk in the intervention group (and its 95% confidence interval) is based on the assumed risk in the comparison group and the relative effect of the intervention (and its 95% CI).  

a. High risk of bias associated with poor reporting of methods in the primary studies.  
b. Small number of events.  
c. The pooled effect included both the line of no effect and appreciable benefit or harm

### 16b Long GnRH agonist protocol compared to ultrashort GnRH agonist protocol for LH surge suppression

**Patient or population:** women undergoing OS for IVF/ICSI  
**Intervention:** long GnRH agonist protocol  
**Comparison:** ultrashort GnRH agonist protocol

<table>
<thead>
<tr>
<th>Outcomes</th>
<th>Anticipated absolute effects* (95% CI)</th>
<th>Relative effect (95% CI)</th>
<th>№ of participants (studies)</th>
<th>Certainty of the evidence (GRADE)</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cumulative LBR</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Not reported</td>
</tr>
<tr>
<td>LBR/ongoing PR (Siristadis, et al., 2015)</td>
<td>122 per 1,000</td>
<td>198 per 1,000 (91 to 376)</td>
<td>OR 1.78 (0.72 to 4.36)</td>
<td>150 (1 RCT)</td>
<td>⬤⬤◯◯ LOW a,b</td>
</tr>
</tbody>
</table>

*a The risk in the intervention group (and its 95% confidence interval) is based on the assumed risk in the comparison group and the relative effect of the intervention (and its 95% CI).

a. Serious inconsistency because only 1 RCT.  
b. 1 RCT, very small number of patients.
### 16c  Short GnRH agonist protocol compared to ultrashort GnRH agonist protocol for LH surge suppression

**Patient or population:** women undergoing OS for IVF/ICSI  
**Intervention:** short GnRH agonist protocol  
**Comparison:** ultrashort GnRH agonist protocol

<table>
<thead>
<tr>
<th>Outcomes</th>
<th>Anticipated absolute effects* (95% CI)</th>
<th>Relative effect (95% CI)</th>
<th>No of participants (studies)</th>
<th>Certainty of the evidence (GRADE)</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Risk with ultrashort GnRH agonist protocol</td>
<td>Risk with short GnRH agonist protocol</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cumulative LBR</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
| Clinical PR  
(Siristatidis, et al., 2015) | 195 per 1,000 | 244 per 1,000 (102 to 480) | OR 1.33 (0.47 to 3.81) | 82 (1 RCT) | 💡◯◯◯  
VERY LOW a,b,c |

*The risk in the intervention group (and its 95% confidence interval) is based on the assumed risk in the comparison group and the relative effect of the intervention (and its 95% CI).  
a. Serious inconsistency because only 1 RCT.  
b. Very low number of events.  
c. Wide confidence interval, which crosses the line of no effect.

### 17a Long GnRH agonist compared to GnRH antagonist protocol for LH surge suppression

**Patient or population:** women undergoing OS for IVF/ICSI  
**Intervention:** long GnRH agonist protocol  
**Comparison:** GnRH antagonist protocol

<table>
<thead>
<tr>
<th>Outcomes</th>
<th>Anticipated absolute effects* (95% CI)</th>
<th>Relative effect (95% CI)</th>
<th>No of participants (studies)</th>
<th>Certainty of the evidence (GRADE)</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Risk with GnRH antagonist protocol</td>
<td>Risk with long GnRH agonist protocol</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
| Cumulative LBR  
(Al-Inany, et al., 2016) |                                        |                          |                            |                                  |          |
| Cumulative LBR  
(Toftager, et al., 2017) | 341 per 1,000 | 371 per 1,000 (313 to 434) | OR 1.14 (0.88 to 1.48) | 1050 (1 RCT) | 💡‖◯◯  
LOW a,b |
| Live birth rate  
(Al-Inany, et al., 2016) | 286 per 1,000 | 290 per 1,000 (254 to 330) | OR 1.02 (0.85 to 1.23) | 2303 (12 RCTs) | 💡‖◯  
MODERATE a |
| Live birth rate  
(Toftager, et al., 2016) | 222 per 1,000 | 0 per 1,000 (0 to 0) | not estimable | 1023 (1 RCT) | 💡‖◯  
LOW a,b,c |
| OHSS  
(Al-Inany, et al., 2016) | 114 per 1,000 | 73 per 1,000 (62 to 85) | OR 0.61 (0.51 to 0.72) | 7944 (36 RCTs) | 💡‖◯  
MODERATE d |
| Moderate/severe OHSS  
(Al-Inany, et al., 2016) | 71 per 1,000 | 39 per 1,000 (30 to 50) | OR 0.53 (0.40 to 0.69) | 5141 (20 RCTs) | 💡‖◯  
LOW b,a |
| Severe OHSS  
(Toftager, et al., 2016) | 51 per 1,000 | 0 per 1,000 (0 to 0) | not estimable | 1023 (1 RCT) | 💡‖◯  
LOW b,f |
| Moderate OHSS  
(Toftager, et al., 2016) | 102 per 1,000 | 0 per 1,000 (0 to 0) | not estimable | 1023 (1 RCT) | 💡‖◯  
LOW b,f |

*The risk in the intervention group (and its 95% confidence interval) is based on the assumed risk in the comparison group and the relative effect of the intervention (and its 95% CI).  
a. The confidence interval crosses the line of no effect.  
b. Serious inconsistency because only 1 RCT  
c. Wide confidence intervals, sample size not met  
d. Very wide confidence intervals, small number of events.  
e. Most domains of the risk of bias were assessed as either ‘unclear’ or ‘high’.  
f. Small number of events, sample size not met.
## 17b  Short GnRH agonist compared to GnRH antagonist protocol for LH surge suppression

**Patient or population:** women undergoing OS for IVF/ICSI  
**Intervention:** short GnRH agonist protocol  
**Comparison:** GnRH antagonist protocol

<table>
<thead>
<tr>
<th>Outcomes</th>
<th>Anticipated absolute effects* (95% CI)</th>
<th>Relative effect (95% CI)</th>
<th>№ of participants (studies)</th>
<th>Certainty of the evidence (GRADE)</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Cumulative LBR</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Live birth rate</td>
<td>0 per 1,000 (0 to 0)</td>
<td>OR 0.84 (0.72 to 0.99)</td>
<td>160 (1 RCT)</td>
<td>VERY LOW a,b,c</td>
<td></td>
</tr>
<tr>
<td>(Gordts, et al., 2012)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Clinical pregnancy rate</td>
<td>0 per 1,000 (0 to 0)</td>
<td></td>
<td>96 (1 RCT)</td>
<td>VERY LOW a,b,c</td>
<td></td>
</tr>
<tr>
<td>(Maldonado, et al., 2013)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*The risk in the intervention group (and its 95% confidence interval) is based on the assumed risk in the comparison group and the relative effect of the intervention (and its 95% CI).*

a. Serious risk of bias due to poor reporting of methodology  
b. Serious inconsistency because only 1 RCT  
c. Very small number of events.

## 18  rFSH compared to hMG for ovarian stimulation

**Patient or population:** women undergoing OS for IVF/ICSI  
**Intervention:** rFSH  
**Comparison:** hMG

<table>
<thead>
<tr>
<th>Outcomes</th>
<th>Anticipated absolute effects* (95% CI)</th>
<th>Relative effect (95% CI)</th>
<th>№ of participants (studies)</th>
<th>Certainty of the evidence (GRADE)</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Cumulative LBR</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>LBR/ongoing PR</td>
<td>223 per 1,000 (198 to 253)</td>
<td>OR 0.84 (0.72 to 0.99)</td>
<td>3197 (11 RCTs)</td>
<td>HIGH</td>
<td></td>
</tr>
<tr>
<td>(van Wely, et al., 2011)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cumulative LBR</td>
<td>0 per 1,000 (0 to 0)</td>
<td></td>
<td>749 (1 RCT)</td>
<td>MODERATE a</td>
<td></td>
</tr>
<tr>
<td>(Devroey, et al., 2012)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Live birth rate</td>
<td>0 per 1,000 (0 to 0)</td>
<td></td>
<td>80 (1 RCT)</td>
<td>LOW a,b</td>
<td></td>
</tr>
<tr>
<td>(Parsanezhad, et al., 2017)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>OHSS</td>
<td>10 per 1,000 (6 to 18)</td>
<td>OR 1.00 (0.58 to 1.71)</td>
<td>4197 (11 RCTs)</td>
<td>MODERATE c</td>
<td></td>
</tr>
<tr>
<td>(van Wely, et al., 2011)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>OHSS</td>
<td>27 per 1,000 (0 to 0)</td>
<td></td>
<td>749 (1 RCT)</td>
<td>LOW a,b</td>
<td></td>
</tr>
<tr>
<td>(Devroey, et al., 2012)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*The risk in the intervention group (and its 95% confidence interval) is based on the assumed risk in the comparison group and the relative effect of the intervention (and its 95% CI).*

a. Serious inconsistency because only 1 RCT  
b. Small number of events  
c. The pooled effect crosses the line of no effect.
### p-FSH compared to rFSH for ovarian stimulation

**Patient or population:** women undergoing OS for IVF/ICSI  
**Intervention:** p-FSH  
**Comparison:** rFSH

<table>
<thead>
<tr>
<th>Outcomes</th>
<th>Anticipated absolute effects* (95% CI)</th>
<th>Relative effect (95% CI)</th>
<th>№ of participants (studies)</th>
<th>Certainty of the evidence (GRADE)</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Risk with rFSH</td>
<td>Risk with p-FSH</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cumulative LBR</td>
<td>Not reported</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
| LBR/ongoing PR (van Wely, et al., 2011) | 207 per 1,000 | 248 per 1,000 (201 to 300) | OR 1.26 (0.96 to 1.64) | 1430 (5 RCTs) | ✧✦◯◯ | LOW  
| OHSS (van Wely, et al., 2011) | 28 per 1,000 | 49 per 1,000 (25 to 95) | OR 1.79 (0.89 to 3.62) | 1490 (6 RCTs) | ✧✦◯◯ | LOW  

*The risk in the intervention group (and its 95% confidence interval) is based on the assumed risk in the comparison group and the relative effect of the intervention (and its 95% CI).  

a. High risk of bias associated with poor reporting of methods in one or more primary studies.  
b. The pooled effect crosses the line of no effect.

### hp-FSH compared to rFSH for ovarian stimulation

**Patient or population:** women undergoing OS for IVF/ICSI  
**Intervention:** hp-FSH  
**Comparison:** rFSH

<table>
<thead>
<tr>
<th>Outcomes</th>
<th>Anticipated absolute effects* (95% CI)</th>
<th>Relative effect (95% CI)</th>
<th>№ of participants (studies)</th>
<th>Certainty of the evidence (GRADE)</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Risk with rFSH</td>
<td>Risk with hp-FSH</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cumulative LBR</td>
<td>Not reported</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
| LBR/ongoing PR (van Wely, et al., 2011) | 266 per 1,000 | 272 per 1,000 (238 to 307) | OR 1.03 (0.86 to 1.22) | 2712 (13 RCTs) | ✧✦◯◯ | LOW  
| Live birth rate (Murber, et al., 2011) | 313 per 1,000 | 0 per 1,000 (0 to 0) | not estimable | 67 (1 RCT) | ✧✦◯◯ | LOW  
| Live birth rate (Parsanezhad, et al., 2017) | 400 per 1,000 | 0 per 1,000 (0 to 0) | not estimable | 80 (1 RCT) | ✧✦◯◯ | LOW  
| Live birth rate (Selman, et al., 2013) | 0 per 1,000 | 0 per 1,000 (0 to 0) | not estimable | 8 (1 RCT) | ✧✦◯◯ | VERY LOW  
| OHSS (van Wely, et al., 2011) | 27 per 1,000 | 30 per 1,000 (19 to 46) | OR 1.11 (0.70 to 1.75) | 3053 (16 RCTs) | ✧✦◯◯ | LOW  

*The risk in the intervention group (and its 95% confidence interval) is based on the assumed risk in the comparison group and the relative effect of the intervention (and its 95% CI).  

a. High risk of bias associated with poor reporting of methods in one or more primary studies.  
b. The pooled effect included the line of no effect and appreciable benefit or harm.  
c. Serious inconsistency because only 1 RCT  
d. Small number of events  
e. Serious risk of bias due to poor reporting of methodology
# hp-FSH compared to hMG for ovarian stimulation

**Patient or population:** women undergoing OS for IVF/ICSI  
**Intervention:** hp-FSH  
**Comparison:** hMG

<table>
<thead>
<tr>
<th>Outcomes</th>
<th>Anticipated absolute effects* (95% CI)</th>
<th>Relative effect (95% CI)</th>
<th>№ of participants (studies)</th>
<th>Certainty of the evidence (GRADE)</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Risk with hMG</td>
<td>Risk with hp-FSH</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cumulative LBR</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Not reported</td>
</tr>
<tr>
<td>Clinical PR</td>
<td>100 per 1,000</td>
<td>0 per 1,000 (0 to 0)</td>
<td>not estimable</td>
<td>20 (1 RCT)</td>
<td>□□□□ VERY LOW a,b,c</td>
</tr>
<tr>
<td>(Duijkers, et al., 1993)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Clinical PR</td>
<td>450 per 1,000</td>
<td>0 per 1,000 (0 to 0)</td>
<td>not estimable</td>
<td>80 (1 RCT)</td>
<td>□□□□ LOW b,c</td>
</tr>
<tr>
<td>(Parsanezhad, et al., 2017)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Clinical PR</td>
<td>360 per 1,000</td>
<td>0 per 1,000 (0 to 0)</td>
<td>not estimable</td>
<td>218 (1 RCT)</td>
<td>□□□□ VERY LOW a,b,c</td>
</tr>
<tr>
<td>(Westergaard, et al., 1996)</td>
<td></td>
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</tr>
</tbody>
</table>

*The risk in the intervention group (and its 95% confidence interval) is based on the assumed risk in the comparison group and the relative effect of the intervention (and its 95% CI).  

a. Serious risk of bias due to poor reporting of methodology  
b. Serious inconsistency because only 1 RCT  
c. Small number of events

# hMG compared to rFSH+rLH for ovarian stimulation

**Patient or population:** women undergoing OS for IVF/ICSI  
**Intervention:** hMG  
**Comparison:** rFSH+rLH

<table>
<thead>
<tr>
<th>Outcomes</th>
<th>Anticipated absolute effects* (95% CI)</th>
<th>Relative effect (95% CI)</th>
<th>№ of participants (studies)</th>
<th>Certainty of the evidence (GRADE)</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Risk with rFSH+rLH</td>
<td>Risk with hMG</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cumulative live birth rate</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Not reported</td>
</tr>
<tr>
<td>OHSS</td>
<td>132 per 1,000</td>
<td>0 per 1,000 (0 to 0)</td>
<td>not estimable</td>
<td>111 (1 RCT)</td>
<td>□□□□ VERY LOW a,b,c</td>
</tr>
<tr>
<td>(Pacchiarotti, et al., 2010)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pregnancy rate</td>
<td>283 per 1,000</td>
<td>0 per 1,000 (0 to 0)</td>
<td>not estimable</td>
<td>111 (1 RCT)</td>
<td>□□□□ VERY LOW a,b,c</td>
</tr>
<tr>
<td>(Pacchiarotti, et al., 2010)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*The risk in the intervention group (and its 95% confidence interval) is based on the assumed risk in the comparison group and the relative effect of the intervention (and its 95% CI).  

a. Serious risk of attrition and detection bias.  
b. Serious inconsistency because only 1 RCT  
c. Small number of events
23  Substitution of gonadotropins by Letrozole for ovarian stimulation

**Patient or population:** women undergoing OS for IVF/ICSI

**Intervention:** substitution of gonadotropins by letrozole

**Comparison:** conventional gonadotropin stimulation

<table>
<thead>
<tr>
<th>Outcomes</th>
<th>Anticipated absolute effects* (95% CI)</th>
<th>Relative effect (95% CI)</th>
<th>No of participants (studies)</th>
<th>Certainty of the evidence (GRADE)</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Risk with conventional gonadotropin stimulation</td>
<td>Risk with letrozole substitution</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cumulative LBR</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ongoing PR (Yasa, et al., 2013)</td>
<td>200 per 1,000</td>
<td>0 per 1,000 (0 to 0)</td>
<td>not estimable</td>
<td>50 (1 RCT)</td>
<td>ΘΟΟΟΟ VERY LOW a,b,c</td>
</tr>
<tr>
<td>Clinical PR (Ebrahimi, et al., 2017)</td>
<td>114 per 1,000</td>
<td>0 per 1,000 (0 to 0)</td>
<td>not estimable</td>
<td>70 (1 RCT)</td>
<td>ΘΟΟΟΟ LOW b,c</td>
</tr>
<tr>
<td>Clinical PR (Verpoest, et al., 2006)</td>
<td>200 per 1,000</td>
<td>0 per 1,000 (0 to 0)</td>
<td>not estimable</td>
<td>20 (1 RCT)</td>
<td>ΘΟΟΟΟ VERY LOW a,b,c</td>
</tr>
</tbody>
</table>

*The risk in the intervention group (and its 95% confidence interval) is based on the assumed risk in the comparison group and the relative effect of the intervention (and its 95% CI).

- **a.** Serious risk of bias due to incomplete reporting of methodology
- **b.** Serious inconsistency because only 1 RCT.
- **c.** Small number of events

24  Long-acting rFSH compared to daily rFSH for ovarian stimulation

**Patient or population:** women undergoing OS for IVF/ICSI

**Intervention:** long-acting rFSH

**Comparison:** daily rFSH

<table>
<thead>
<tr>
<th>Outcomes</th>
<th>Anticipated absolute effects* (95% CI)</th>
<th>Relative effect (95% CI)</th>
<th>No of participants (studies)</th>
<th>Certainty of the evidence (GRADE)</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Risk with daily rFSH</td>
<td>Risk with long-acting rFSH</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cumulative LBR</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Live birth rate (Griesinger, et al., 2016)</td>
<td>296 per 1,000</td>
<td>-591 per 1,000 (-1,478 to 325)</td>
<td>Difference -2.0 (-5.0 to 1.1)</td>
<td>3295 (3 RCTs)</td>
<td>ΘΘΘΘ MODERATE a</td>
</tr>
<tr>
<td>OHSS (Griesinger, et al., 2016)</td>
<td>41 per 1,000</td>
<td>53 per 1,000 (34 to 81)</td>
<td>OR 1.29 (0.81 to 2.05)</td>
<td>3295 (3 RCTs)</td>
<td>ΘΘΘΘ MODERATE a</td>
</tr>
</tbody>
</table>

*The risk in the intervention group (and its 95% confidence interval) is based on the assumed risk in the comparison group and the relative effect of the intervention (and its 95% CI).

- **a.** The pooled effect included the line of no effect
## 25 Metformin for adjuvant therapy in ovarian stimulation for PCOS patients

**Patient or population:** PCOS women undergoing OS for IVF/ICSI  
**Intervention:** metformin  
**Comparison:** placebo/no intervention

<table>
<thead>
<tr>
<th>Outcomes</th>
<th>Anticipated absolute effects* (95% CI)</th>
<th>Relative effect (95% CI)</th>
<th>No of participants (studies)</th>
<th>Certainty of the evidence (GRADE)</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Risk with placebo/no metformin</td>
<td>Risk with metformin</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Cumulative LBR</strong></td>
<td>Not reported</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Live birth rate (Tso, et al., 2014)</td>
<td>309 per 1,000</td>
<td>383 per 1,000 (266 to 518)</td>
<td>OR 1.39 (0.81 to 2.40)</td>
<td>551 (5 RCTs)</td>
<td>⬤ ⬤ ⬤ ⬤ LOW a,b</td>
</tr>
<tr>
<td>Live birth rate (Jacob, et al., 2016)</td>
<td>516 per 1,000</td>
<td>0 per 1,000 (0 to 0)</td>
<td>not estimable</td>
<td>122 (1 RCT)</td>
<td>⬤ ⬤ ⬤ ⬤ LOW c,d</td>
</tr>
<tr>
<td>Live birth rate (Abdalmageed, et al., 2018)</td>
<td>176 per 1,000</td>
<td>0 per 1,000 (0 to 0)</td>
<td>not estimable</td>
<td>102 (1 RCT)</td>
<td>⬤ ⬤ ⬤ ⬤ LOW c,e</td>
</tr>
<tr>
<td>OHSS (Tso, et al., 2014)</td>
<td>217 per 1,000</td>
<td>74 per 1,000 (48 to 120)</td>
<td>OR 0.29 (0.18 to 0.49)</td>
<td>798 (8 RCTs)</td>
<td>⬤ ⬤ ⬤ ⬤ MODERATE e</td>
</tr>
<tr>
<td>OHSS moderate/severe (Jacob, et al., 2016)</td>
<td>118 per 1,000</td>
<td>156 per 1,000 (68 to 319)</td>
<td>OR 1.376 (0.542 to 3.491)</td>
<td>153 (1 RCT)</td>
<td>⬤ ⬤ ⬤ ⬤ LOW f,g</td>
</tr>
</tbody>
</table>

*The risk in the intervention group (and its 95% confidence interval) is based on the assumed risk in the comparison group and the relative effect of the intervention (and its 95% CI).

a. Substantial unexplainable statistical heterogeneity of results (I²=52%).  
b. The pooled effect included the line of no effect.  
c. Serious inconsistency because only 1 RCT.  
d. Very small number of patients, small number of events.  
e. Low number of events

## 26a Growth hormone for adjuvant therapy in ovarian stimulation, routine use

**Patient or population:** women undergoing OS for IVF/ICSI  
**Intervention:** growth hormone  
**Comparison:** no intervention

<table>
<thead>
<tr>
<th>Outcomes</th>
<th>Anticipated absolute effects* (95% CI)</th>
<th>Relative effect (95% CI)</th>
<th>No of participants (studies)</th>
<th>Certainty of the evidence (GRADE)</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Risk with no intervention</td>
<td>Risk with growth hormone</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Cumulative LBR</strong></td>
<td>Not reported</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Live birth rate (Duffy, et al., 2010)</td>
<td>146 per 1,000</td>
<td>185 per 1,000 (64 to 432)</td>
<td>OR 1.32 (0.40 to 4.43)</td>
<td>80 (2 RCTs)</td>
<td>⬤ ⬤ ⬤ ⬤ MODERATE a,b</td>
</tr>
<tr>
<td>Adverse events (Duffy, et al., 2010)</td>
<td>195 per 1,000</td>
<td>131 per 1,000 (42 to 343)</td>
<td>OR 0.62 (0.18 to 2.15)</td>
<td>80 (2 RCTs)</td>
<td>⬤ ⬤ ⬤ ⬤ MODERATE a,b</td>
</tr>
</tbody>
</table>

*The risk in the intervention group (and its 95% confidence interval) is based on the assumed risk in the comparison group and the relative effect of the intervention (and its 95% CI).

a. sequence generation and allocation concealment unclear  
b. Small number of events.
### 26b  Growth hormone for adjuvant therapy in ovarian stimulation in low responders

**Patient or population:** low responder women undergoing OS for IVF/ICSI  
**Intervention:** growth hormone  
**Comparison:** no intervention

<table>
<thead>
<tr>
<th>Outcomes</th>
<th>Anticipated absolute effects* (95% CI)</th>
<th>Relative effect (95% CI)</th>
<th>No of participants (studies)</th>
<th>Certainty of the evidence (GRADE)</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Risk with no intervention</td>
<td>Risk with growth hormone</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Live birth rate</td>
<td>158 per 1,000 (197 to 379)</td>
<td>273 per 1,000 (1.25 to 2.40)</td>
<td>562 (9 RCTs)</td>
<td>⬤◯◯◯ LOW a,b</td>
<td></td>
</tr>
</tbody>
</table>

*The risk in the intervention group (and its 95% confidence interval) is based on the assumed risk in the comparison group and the relative effect of the intervention (and its 95% CI).*  

a. Small number of events.  

b. Serious risk of bias because of poor reporting of methodology.

### 27  Testosterone for adjuvant therapy before ovarian stimulation.

**Patient or population:** women undergoing OS for IVF/ICSI  
**Intervention:** adjuvant testosterone  
**Comparison:** no intervention

<table>
<thead>
<tr>
<th>Outcomes</th>
<th>Anticipated absolute effects* (95% CI)</th>
<th>Relative effect (95% CI)</th>
<th>No of participants (studies)</th>
<th>Certainty of the evidence (GRADE)</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Risk with no intervention</td>
<td>Risk with testosterone</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cumulative LBR</td>
<td>Not reported</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>LBR/ongoing PR</td>
<td>92 per 1,000 (116 to 344)</td>
<td>OR 2.6 (1.3 to 5.2)</td>
<td>345 (4 RCTs)</td>
<td>⬤◯◯◯ MODERATE a</td>
<td></td>
</tr>
<tr>
<td>Live birth rate</td>
<td>83 per 1,000 (0 to 0)</td>
<td>not estimable</td>
<td>50 (1 RCT)</td>
<td>⬤◯◯◯ LOW a,c</td>
<td></td>
</tr>
<tr>
<td>2 weeks treatment</td>
<td>67 per 1,000 (0 to 0)</td>
<td>not estimable</td>
<td>60 (1 RCT)</td>
<td>⬤◯◯◯ LOW a,c</td>
<td></td>
</tr>
<tr>
<td>3 weeks treatment</td>
<td>67 per 1,000 (0 to 0)</td>
<td>not estimable</td>
<td>60 (1 RCT)</td>
<td>⬤◯◯◯ LOW a,c</td>
<td></td>
</tr>
<tr>
<td>4 weeks treatment</td>
<td>67 per 1,000 (0 to 0)</td>
<td>not estimable</td>
<td>60 (1 RCT)</td>
<td>⬤◯◯◯ LOW a,c</td>
<td></td>
</tr>
</tbody>
</table>

*The risk in the intervention group (and its 95% confidence interval) is based on the assumed risk in the comparison group and the relative effect of the intervention (and its 95% CI).*  

a. Large confidence intervals, small number of patients.  

b. Serious inconsistency because only 1 RCT  

c. Small number of patients, very small number of events.
### Dehydroepiandrosterone (DHEA) for adjuvant therapy in ovarian stimulation

**Patient or population:** women undergoing OS for IVF/ICSI  
**Intervention:** adjuvant DHEA  
**Comparison:** no DHEA

<table>
<thead>
<tr>
<th>Outcomes</th>
<th>Anticipated absolute effects* (95% CI)</th>
<th>Relative effect (95% CI)</th>
<th>No of participants (studies)</th>
<th>Certainty of the evidence (GRADE)</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Risk with no DHEA</td>
<td>Risk with DHEA</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cumulative LBR</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>LBR/ongoing PR</td>
<td>128 per 1,000 (155 to 277)</td>
<td>OR 1.81 (1.25 to 2.62)</td>
<td>878 (8 RCTs)</td>
<td>⬤⬤⬤◯ MODERATE a</td>
<td></td>
</tr>
<tr>
<td>Live birth</td>
<td>320 per 1,000 (70 to 794)</td>
<td>RR 0.74 (0.22 to 2.48)</td>
<td>52 (1 RCT)</td>
<td>⬤⬤⬤⬤ VERY LOW ab,c</td>
<td></td>
</tr>
</tbody>
</table>

*The risk in the intervention group (and its 95% confidence interval) is based on the assumed risk in the comparison group and the relative effect of the intervention (and its 95% CI).*

a. Large confidence intervals, small number of events.  
b. Risk of performance bias.  
c. Serious inconsistency because only 1 RCT.

### Aspirin for adjuvant therapy in ovarian stimulation

**Patient or population:** women undergoing OS for IVF/ICSI  
**Intervention:** adjuvant aspirin  
**Comparison:** no intervention

<table>
<thead>
<tr>
<th>Outcomes</th>
<th>Anticipated absolute effects* (95% CI)</th>
<th>Relative effect (95% CI)</th>
<th>No of participants (studies)</th>
<th>Certainty of the evidence (GRADE)</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Risk with no intervention</td>
<td>Risk with aspirin</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cumulative LBR</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Live birth rate</td>
<td>225 per 1,000 (162 to 259)</td>
<td>RR 0.91 (0.72 to 1.15)</td>
<td>1053 (3 RCTs)</td>
<td>⬤⬤⬤◯ MODERATE a</td>
<td></td>
</tr>
</tbody>
</table>

*The risk in the intervention group (and its 95% confidence interval) is based on the assumed risk in the comparison group and the relative effect of the intervention (and its 95% CI).*

a. The confidence interval crosses the line of no effect, small number of events
### 30 Ultrasound and oestradiol measurements for monitoring during ovarian stimulation

**Patient or population**: women undergoing OS for IVF/ICSI  
**Intervention**: ultrasound and oestradiol measurements  
**Comparison**: ultrasound alone

<table>
<thead>
<tr>
<th>Outcomes</th>
<th>Anticipated absolute effects* (95% CI)</th>
<th>Relative effect (95% CI)</th>
<th>Nº of participants (studies)</th>
<th>Certainty of the evidence (GRADE)</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Risk with USS alone</td>
<td>Risk with USS+E2</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Cumulative LBR</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>OHSS (Kwan, et al., 2014)</td>
<td>36 per 1,000 (18 to 76)</td>
<td>37 per 1,000 (18 to 76)</td>
<td>OR 1.03 (0.48 to 2.20)</td>
<td>781 (6 RCTs)</td>
<td>▪▪▪▪ ▪LOW a,b</td>
</tr>
<tr>
<td>Clinical pregnancy rate (Kwan, et al., 2014)</td>
<td>361 per 1,000 (308 to 465)</td>
<td>383 per 1,000 (308 to 465)</td>
<td>OR 1.10 (0.79 to 1.54)</td>
<td>617 (4 RCTs)</td>
<td>▪▪▪▪ ▪LOW a,b</td>
</tr>
</tbody>
</table>

*The risk in the intervention group (and its 95% confidence interval) is based on the assumed risk in the comparison group and the relative effect of the intervention (and its 95% CI).*

a. Serious risk of bias due to incomplete reporting of methodology in primary studies.
b. Wide confidence intervals and the pooled effect included the line of no effect.

due to incomplete reporting of methodology in primary studies.

### 31 Ultrasound and hormone panel for monitoring during ovarian stimulation

**Patient or population**: women undergoing OS for IVF/ICSI  
**Intervention**: ultrasound and hormone panel  
**Comparison**: ultrasound alone

<table>
<thead>
<tr>
<th>Outcomes</th>
<th>Anticipated absolute effects* (95% CI)</th>
<th>Relative effect (95% CI)</th>
<th>Nº of participants (studies)</th>
<th>Certainty of the evidence (GRADE)</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Risk with USS alone</td>
<td>Risk with USS+hormone panel</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Cumulative LBR</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>OHSS (Golan, et al., 1994)</td>
<td>70 per 1,000 (0 to 0)</td>
<td>0 per 1,000 (0 to 0)</td>
<td>not estimable</td>
<td>114 (1 RCT)</td>
<td>▪▪▪▪ ▪LOW a,b,c</td>
</tr>
<tr>
<td>OHSS (Wiser, et al., 2012)</td>
<td>0 per 1,000 (0 to 0)</td>
<td>0 per 1,000 (0 to 0)</td>
<td>not estimable</td>
<td>63 (1 RCT)</td>
<td>▪▪▪▪ ▪LOW a,b,c</td>
</tr>
<tr>
<td>Pregnancy rate (Golan, et al., 1994)</td>
<td>246 per 1,000 (0 to 0)</td>
<td>0 per 1,000 (0 to 0)</td>
<td>not estimable</td>
<td>114 (1 RCT)</td>
<td>▪▪▪▪ ▪LOW a,b,c</td>
</tr>
<tr>
<td>Clinical PR (Wiser, et al., 2012)</td>
<td>576 per 1,000 (0 to 0)</td>
<td>0 per 1,000 (0 to 0)</td>
<td>not estimable</td>
<td>63 (1 RCT)</td>
<td>▪▪▪▪ ▪LOW a,b,c</td>
</tr>
</tbody>
</table>

*The risk in the intervention group (and its 95% confidence interval) is based on the assumed risk in the comparison group and the relative effect of the intervention (and its 95% CI).*

a. Serious risk of bias due to incomplete reporting of methodology  
b. Serious inconsistency because only 1 RCT  
c. Small number of patients, small number of events
### 32 Early compared to late hCG administration for final oocyte maturation

**Patient or population**: women undergoing OS for IVF/ICSI  
**Intervention**: early hCG administration  
**Comparison**: late hCG administration

<table>
<thead>
<tr>
<th>Outcomes</th>
<th>Anticipated absolute effects* (95% CI)</th>
<th>Relative effect (95% CI)</th>
<th>No of participants (studies)</th>
<th>Certainty of the evidence (GRADE)</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Live birth rate</td>
<td>Risk with late hCG: 310 per 1,000 (125 to 770)</td>
<td>Risk with early hCG: 310 per 1,000 (125 to 770)</td>
<td>RR 1.14 (0.46 to 2.83)</td>
<td>354 (3 RCTs)</td>
<td>▭◯◯◯</td>
</tr>
</tbody>
</table>

*The risk in the intervention group (and its 95% confidence interval) is based on the assumed risk in the comparison group and the relative effect of the intervention (and its 95% CI).  

- a. Serious risk of selection and performance bias  
- b. Significant heterogeneity I²=65%  
- c. The pooled effect included the line of no effect

### 33 Recombinant hCG compared to urinary hCG for final oocyte maturation

**Patient or population**: women undergoing OS for IVF/ICSI  
**Intervention**: recombinant hCG  
**Comparison**: urinary hCG

<table>
<thead>
<tr>
<th>Outcomes</th>
<th>Anticipated absolute effects* (95% CI)</th>
<th>Relative effect (95% CI)</th>
<th>No of participants (studies)</th>
<th>Certainty of the evidence (GRADE)</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cumulative LBR</td>
<td>Risk with urinary hCG: 399 per 1,000 (339 to 462)</td>
<td>Risk with recombinant hCG: 399 per 1,000 (339 to 462)</td>
<td>OR 1.15 (0.89 to 1.49)</td>
<td>1136 (7 RCTs)</td>
<td>▭◯◯◯</td>
</tr>
<tr>
<td>LBR/ongoing PR</td>
<td>366 per 1,000 (Youssef, et al., 2016)</td>
<td>399 per 1,000 (339 to 462)</td>
<td>OR 1.15 (0.89 to 1.49)</td>
<td>1136 (7 RCTs)</td>
<td>▭◯◯◯</td>
</tr>
<tr>
<td>Moderate/severe OHSS</td>
<td>10 per 1,000 (Youssef, et al., 2016)</td>
<td>17 per 1,000 (4 to 77)</td>
<td>OR 1.76 (0.37 to 8.45)</td>
<td>417 (3 RCTs)</td>
<td>▭◯◯◯</td>
</tr>
</tbody>
</table>

*The risk in the intervention group (and its 95% confidence interval) is based on the assumed risk in the comparison group and the relative effect of the intervention (and its 95% CI).  

- a. The pooled effect included both the line of no effect and appreciable benefit or harm.  
- b. Very wide confidence intervals, small number of events.
### 34a  5.000 IU compared to 10.000 IU urinary hCG for final oocyte maturation

**Patient or population:** women undergoing OS for IVF/ICSI  
**Intervention:** 5.000 IU urinary hCG  
**Comparison:** 10.000 IU urinary hCG

<table>
<thead>
<tr>
<th>Outcomes</th>
<th>Anticipated absolute effects* (95% CI)</th>
<th>Relative effect (95% CI)</th>
<th>№ of participants (studies)</th>
<th>Certainty of the evidence (GRADE)</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Risk with 10.000 IU urinary hCG</td>
<td>Risk with 5.000 IU urinary hCG</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Severe OHSS</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Kolibianakis, et al., 2007</td>
<td>36 per 1,000</td>
<td>0 per 1,000</td>
<td>not estimable</td>
<td>54 (1 RCT)</td>
<td>⊕⊕◯◯ LOw a,b</td>
</tr>
<tr>
<td><strong>OHSS</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Shaltout, et al., 2006</td>
<td>83 per 1,000</td>
<td>0 per 1,000</td>
<td>not estimable</td>
<td>98 (1 RCT)</td>
<td>⊕◯◯◯ VERY LOW a,b,c</td>
</tr>
<tr>
<td><strong>Ongoing PR</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Kolibianakis, et al., 2007</td>
<td>250 per 1,000</td>
<td>0 per 1,000</td>
<td>not estimable</td>
<td>54 (1 RCT)</td>
<td>⊕◯◯◯ LOW a,b</td>
</tr>
<tr>
<td><strong>Pregnancy rate</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Shaltout, et al., 2006</td>
<td>354 per 1,000</td>
<td>0 per 1,000</td>
<td>not estimable</td>
<td>98 (1 RCT)</td>
<td>⊕◯◯◯ VERY LOW a,b,c</td>
</tr>
</tbody>
</table>

*The risk in the intervention group (and its 95% confidence interval) is based on the assumed risk in the comparison group and the relative effect of the intervention (and its 95% CI).*

- a. Serious inconsistency because only 1 RCT  
- b. Small number of patients, small number of events  
- c. Serious risk of bias due to incomplete reporting of methodology

### 34b  250 µg compared to 500 µg recombinant hCG for final oocyte maturation

**Patient or population:** women undergoing OS for IVF/ICSI  
**Intervention:** 250 µg recombinant hCG  
**Comparison:** 500 µg recombinant hCG

<table>
<thead>
<tr>
<th>Outcomes</th>
<th>Anticipated absolute effects* (95% CI)</th>
<th>Relative effect (95% CI)</th>
<th>№ of participants (studies)</th>
<th>Certainty of the evidence (GRADE)</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Risk with 500 µg recombinant hCG</td>
<td>Risk with 250 µg recombinant hCG</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>OHSS</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Madani, et al., 2013</td>
<td>100 per 1,000</td>
<td>0 per 1,000</td>
<td>not estimable</td>
<td>120 (1 RCT)</td>
<td>⊕◯◯◯ VERY LOW a,b,c</td>
</tr>
<tr>
<td><strong>Clinical pregnancy rate</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Madani, et al., 2013</td>
<td>345 per 1,000</td>
<td>0 per 1,000</td>
<td>not estimable</td>
<td>100 (1 RCT)</td>
<td>⊕◯◯◯ VERY LOW a,b,c</td>
</tr>
</tbody>
</table>

*The risk in the intervention group (and its 95% confidence interval) is based on the assumed risk in the comparison group and the relative effect of the intervention (and its 95% CI).*

- a. Possible risk of performance bias due to incomplete reporting of methodology  
- b. Serious inconsistency because only 1 RCT  
- c. Small number of patients, small number of events
### 35 Recombinant LH compared to urinary hCG for final oocyte maturation

**Patient or population:** women undergoing OS for IVF/ICSI  
**Intervention:** recombinant LH  
**Comparison:** urinary hCG

<table>
<thead>
<tr>
<th>Outcomes</th>
<th>Anticipated absolute effects* (95% CI)</th>
<th>Relative effect (95% CI)</th>
<th>No of participants (studies)</th>
<th>Certainty of the evidence (GRADE)</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Risk with urinary hCG</td>
<td>Risk with recombinant LH</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cumulative LBR</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>LBR/ongoing PR</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(Youssef, et al., 2016)</td>
<td>191 per 1,000</td>
<td>184 per 1,000</td>
<td>OR 0.95 (0.51 to 1.78)</td>
<td>289 (2 RCTs)</td>
<td>△△△△</td>
</tr>
<tr>
<td></td>
<td>(108 to 297)</td>
<td>(51 to 178)</td>
<td></td>
<td></td>
<td>VERY LOW</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Moderate OHSS</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(Youssef, et al., 2016)</td>
<td>121 per 1,000</td>
<td>102 per 1,000</td>
<td>OR 0.83 (0.40 to 1.70)</td>
<td>289 (2 RCTs)</td>
<td>△△△△</td>
</tr>
<tr>
<td></td>
<td>(52 to 189)</td>
<td>(27 to 178)</td>
<td></td>
<td></td>
<td>VERY LOW</td>
</tr>
</tbody>
</table>

*The risk in the intervention group (and its 95% confidence interval) is based on the assumed risk in the comparison group and the relative effect of the intervention (and its 95% CI).

a. One of the two RCT's did not provide information about methods of randomization, allocation concealment or blinding.  
b. The pooled effect included both the line of no effect and appreciable benefit or harm.  
c. Small number of events.  
d. Very wide confidence intervals.

### 36 GnRH agonist with conventional luteal support compared to hCG for final oocyte maturation

**Patient or population:** women undergoing OS for IVF/ICSI  
**Intervention:** GnRH agonist without adjusted LPS  
**Comparison:** hCG

<table>
<thead>
<tr>
<th>Outcomes</th>
<th>Anticipated absolute effects* (95% CI)</th>
<th>Relative effect (95% CI)</th>
<th>No of participants (studies)</th>
<th>Certainty of the evidence (GRADE)</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Risk with hCG</td>
<td>Risk with GnRH agonist</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cumulative LBR</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Clinical PR</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(Griesinger, et al., 2006)</td>
<td>301 per 1,000</td>
<td>83 per 1,000</td>
<td>OR 0.21 (0.05 to 0.84)</td>
<td>275 (3 RCTs)</td>
<td>△△△△</td>
</tr>
<tr>
<td></td>
<td>(21 to 266)</td>
<td>(12 to 250)</td>
<td></td>
<td></td>
<td>VERY LOW</td>
</tr>
</tbody>
</table>

*The risk in the intervention group (and its 95% confidence interval) is based on the assumed risk in the comparison group and the relative effect of the intervention (and its 95% CI).

a. Two of the trials (Humaidan et al., 2005; Kolibianakis et al., 2005) included were prematurely discontinued because of the comparatively lower pregnancy rate observed after GnRH agonist treatment  
b. Serious risk of bias due to incomplete reporting of methodology  
c. Small number of events, large confidence intervals
### 37 GnRH agonist with modified luteal support compared to hCG for final oocyte maturation

**Patient or population:** women undergoing OS for IVF/ICSI  
**Intervention:** GnRH agonist with modified LPS  
**Comparison:** hCG

<table>
<thead>
<tr>
<th>Outcomes</th>
<th>Anticipated absolute effects* (95% CI)</th>
<th>Relative effect (95% CI)</th>
<th>№ of participants (studies)</th>
<th>Certainty of the evidence (GRADE)</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Risk with hCG</td>
<td>Risk with GnRH agonist</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cumulative LBR</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>OHSS (Youssef, et al., 2014)</td>
<td>8 per 1,000</td>
<td>6 per 1,000 (1 to 27)</td>
<td>OR 0.79 (0.18 to 3.47)</td>
<td>777 (6 RCTs)</td>
<td>□□□□ VERY LOW a,b,c</td>
</tr>
<tr>
<td>Live birth rate (Humaidan, et al., 2010)</td>
<td>313 per 1,000</td>
<td>0 per 1,000 (0 to 0)</td>
<td>not estimable</td>
<td>302 (1 RCT)</td>
<td>□□□□ LOW a,b,c</td>
</tr>
<tr>
<td>Live birth rate (Papanikolaou, et al., 2011)</td>
<td>222 per 1,000</td>
<td>0 per 1,000 (0 to 0)</td>
<td>not estimable</td>
<td>35 (1 RCT)</td>
<td>□□□□ VERY LOW a,b,c</td>
</tr>
<tr>
<td>Ongoing PR (Humaidan, et al., 2013)</td>
<td>255 per 1,000</td>
<td>0 per 1,000 (0 to 0)</td>
<td>not estimable</td>
<td>266 (1 RCT)</td>
<td>□□□□ LOW a,b,c</td>
</tr>
<tr>
<td>Clinical pregnancy rate (Humaidan, et al., 2006)</td>
<td>462 per 1,000</td>
<td>0 per 1,000 (0 to 0)</td>
<td>not estimable</td>
<td>28 (1 RCT)</td>
<td>□□□□ VERY LOW a,b,c</td>
</tr>
</tbody>
</table>

*The risk in the intervention group (and its 95% confidence interval) is based on the assumed risk in the comparison group and the relative effect of the intervention (and its 95% CI).*

a. All studies are at high risk of bias in 1 or more domains. None clearly reported blinded outcome assessment.
b. Substantial heterogeneity: I²=66%
c. The pooled effect included both the line of no effect and appreciable benefit or harm.
d. Serious risk of bias due to incomplete reporting of methodology  
e. Serious inconsistency because only 1 RCT  
f. Small number of events.

### 38 Dual trigger compared to hCG for final oocyte maturation

**Patient or population:** women undergoing OS for IVF/ICSI  
**Intervention:** dual trigger  
**Comparison:** hCG

<table>
<thead>
<tr>
<th>Outcomes</th>
<th>Anticipated absolute effects* (95% CI)</th>
<th>Relative effect (95% CI)</th>
<th>№ of participants (studies)</th>
<th>Certainty of the evidence (GRADE)</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Risk with hCG</td>
<td>Risk with dual trigger</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cumulative LBR</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pregnancy rate (Ding, et al., 2017)</td>
<td>307 per 1,000</td>
<td>475 per 1,000 (359 to 632)</td>
<td>RR 1.55 (1.17 to 2.06)</td>
<td>320 (2 RCTs)</td>
<td>□□□□ LOW a,b</td>
</tr>
<tr>
<td>Ongoing PR (Eftekhar, et al., 2017)</td>
<td>215 per 1,000</td>
<td>0 per 1,000 (0 to 0)</td>
<td>not estimable</td>
<td>192 (1 RCT)</td>
<td>□□□□ VERY LOW c,d,e</td>
</tr>
</tbody>
</table>

*The risk in the intervention group (and its 95% confidence interval) is based on the assumed risk in the comparison group and the relative effect of the intervention (and its 95% CI).*

a. Serious risk of bias due to incomplete reporting of methodology in the primary studies  
b. Small number of events  
c. Serious risk of bias due to incomplete reporting of methodology  
d. Serious inconsistency because only 1 RCT  
e. Small number of events, sample size not reached.
### 39 Progesterone compared to placebo or no intervention for luteal phase support

**Patient or population:** women undergoing OS for IVF/ICSI  
**Intervention:** progesterone  
**Comparison:** placebo or no intervention

<table>
<thead>
<tr>
<th>Outcomes</th>
<th>Anticipated absolute effects* (95% CI)</th>
<th>Relative effect (95% CI)</th>
<th>№ of participants (studies)</th>
<th>Certainty of the evidence (GRADE)</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Risk with placebo/no intervention</td>
<td>Risk with progesterone</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cumulative LBR</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Not reported</td>
</tr>
<tr>
<td>Live birth/ongoing PR (van der Linden, et al., 2015)</td>
<td>101 per 1,000 (109 to 243)</td>
<td>OR 1.77 (1.09 to 2.86)</td>
<td>642 (5 RCTs)</td>
<td>☢○○○ VERY LOW a,b,c</td>
<td></td>
</tr>
</tbody>
</table>

*The risk in the intervention group (and its 95% confidence interval) is based on the assumed risk in the comparison group and the relative effect of the intervention (and its 95% CI).

a. Inadequate reporting of study methods. Risk of bias unclear in most domains of most studies.  
b. Very small number of events.  
c. Effect estimate with very wide confidence intervals.

### 40 Low-dose compared to high dose vaginal progesterone for luteal support

**Patient or population:** women undergoing OS for IVF/ICSI  
**Intervention:** low dose vaginal progesterone  
**Comparison:** high dose vaginal progesterone

<table>
<thead>
<tr>
<th>Outcomes</th>
<th>Anticipated absolute effects* (95% CI)</th>
<th>Relative effect (95% CI)</th>
<th>№ of participants (studies)</th>
<th>Certainty of the evidence (GRADE)</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Risk with high dose</td>
<td>Risk with low dose</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cumulative LBR</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Not reported</td>
</tr>
<tr>
<td>Live birth/ongoing PR (van der Linden, et al., 2015)</td>
<td>325 per 1,000 (288 to 348)</td>
<td>OR 0.97 (0.84 to 1.11)</td>
<td>3720 (5 RCTs)</td>
<td>☢○○○ LOW a,b</td>
<td></td>
</tr>
<tr>
<td>Live birth rate (Aslih, et al., 2017)</td>
<td>250 per 1,000 (0 to 0)</td>
<td>not estimable</td>
<td>71 (1 RCT)</td>
<td>☢○○○ VERY LOW a,c,d</td>
<td></td>
</tr>
<tr>
<td>Live birth rate (Michnova, et al., 2017)</td>
<td>528 per 1,000 (0 to 0)</td>
<td>not estimable</td>
<td>100 (1 RCT)</td>
<td>☢○○○ VERY LOW a,c,d</td>
<td></td>
</tr>
<tr>
<td>OHSS (van der Linden, et al., 2015)</td>
<td>70 per 1,000 (41 to 99)</td>
<td>OR 0.91 (0.57 to 1.46)</td>
<td>1251 (2 RCTs)</td>
<td>☢○○○ LOW a,b</td>
<td></td>
</tr>
</tbody>
</table>

*The risk in the intervention group (and its 95% confidence interval) is based on the assumed risk in the comparison group and the relative effect of the intervention (and its 95% CI).

a. Serious risk of bias due to incomplete reporting of methodology.  
b. The pooled effect crosses the line of no effect.  
c. Serious inconsistency because only 1 RCT  
d. Small number of patients, required sample size not reached
### 41a Subcutaneous compared to vaginal progesterone for luteal support

**Patient or population:** women undergoing OS for IVF/ICSI  
**Intervention:** subcutaneous progesterone  
**Comparison:** vaginal progesterone

<table>
<thead>
<tr>
<th>Outcomes</th>
<th>Anticipated absolute effects* (95% CI)</th>
<th>Relative effect (95% CI)</th>
<th>No of participants (studies)</th>
<th>Certainty of the evidence (GRADE)</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Risk with vaginal progesterone</td>
<td>Risk with subcutaneous</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Live birth (Doblinger, et al., 2016)</td>
<td>376 per 1,000 (301 to 400)</td>
<td>349 per 1,000 (301 to 400)</td>
<td>OR 0.889 (0.714 to 1.106)</td>
<td>1435 (2 RCTs)</td>
<td>⬤⬤⬤ ◯ MODERATE a</td>
</tr>
<tr>
<td>OHSS (Doblinger, et al., 2016)</td>
<td>36 per 1,000 (22 to 63)</td>
<td>37 per 1,000 (22 to 63)</td>
<td>OR 1.04 (0.60 to 1.81)</td>
<td>1435 (2 RCTs)</td>
<td>⬤⬤⬤ ◯ MODERATE a</td>
</tr>
</tbody>
</table>

*The risk in the intervention group* (and its 95% confidence interval) is based on the assumed risk in the comparison group and the **relative effect** of the intervention (and its 95% CI).

a. The pooled effect included the line of no effect.

### 41b Vaginal/rectal compared to oral progesterone for luteal support

**Patient or population:** women undergoing OS for IVF/ICSI  
**Intervention:** vaginal/rectal progesterone  
**Comparison:** oral progesterone

<table>
<thead>
<tr>
<th>Outcomes</th>
<th>Anticipated absolute effects* (95% CI)</th>
<th>Relative effect (95% CI)</th>
<th>No of participants (studies)</th>
<th>Certainty of the evidence (GRADE)</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Risk with oral progesterone</td>
<td>Risk with vaginal/rectal</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Live birth/ongoing PR (van der Linden, et al., 2015)</td>
<td>217 per 1,000 (187 to 319)</td>
<td>248 per 1,000 (187 to 319)</td>
<td>OR 1.19 (0.83 to 1.69)</td>
<td>857 (4 RCTs)</td>
<td>⬤⬤ ◯◯ LOW a,b</td>
</tr>
</tbody>
</table>

*The risk in the intervention group* (and its 95% confidence interval) is based on the assumed risk in the comparison group and the **relative effect** of the intervention (and its 95% CI).

a. Serious risk of bias due to poor reporting of methodology.  
b. The pooled effect crosses the line of no effect.

### 41c Intramuscular compared to vaginal/rectal progesterone for luteal support

**Patient or population:** women undergoing OS for IVF/ICSI  
**Intervention:** intramuscular progesterone  
**Comparison:** vaginal/rectal progesterone

<table>
<thead>
<tr>
<th>Outcomes</th>
<th>Anticipated absolute effects* (95% CI)</th>
<th>Relative effect (95% CI)</th>
<th>No of participants (studies)</th>
<th>Certainty of the evidence (GRADE)</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Risk with vaginal/rectal progesterone</td>
<td>Risk with intramuscular</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Live birth/ongoing PR (van der Linden, et al., 2015)</td>
<td>306 per 1,000 (312 to 398)</td>
<td>353 per 1,000 (312 to 398)</td>
<td>OR 1.24 (1.03 to 1.50)</td>
<td>2039 (7 RCTs)</td>
<td>⬤⬤◯◯ LOW a,b</td>
</tr>
</tbody>
</table>

*The risk in the intervention group* (and its 95% confidence interval) is based on the assumed risk in the comparison group and the **relative effect** of the intervention (and its 95% CI).

a. Serious risk of bias due to poor reporting of methodology.  
b. Significant heterogeneity of results: $I^2=71%$
### 41d Intramuscular compared to oral progesterone for luteal support

**Patient or population:** women undergoing OS for IVF/ICSI  
**Intervention:** intramuscular progesterone  
**Comparison:** oral progesterone

<table>
<thead>
<tr>
<th>Outcomes</th>
<th>Anticipated absolute effects* (95% CI)</th>
<th>Relative effect (95% CI)</th>
<th>No of participants (studies)</th>
<th>Certainty of the evidence (GRADE)</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Risk with oral progesterone</td>
<td>Risk with intramuscular</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
| Cumulative LBR Live birth/ongoing PR (van der Linden, et al., 2015) | 200 per 1,000  
(34 to 478) | 151 per 1,000  
(34 to 478) | 40  
(1 RCT) | ⨁◯◯◯ | VERY LOW  
*a,b,c,d* |
| OHSS (van der Linden, et al., 2015) | 50 per 1,000  
(3 to 475) | 50 per 1,000  
(3 to 475) | 40  
(1 RCT) | ⨁◯◯◯ | VERY LOW  
*a,b,c,d* |

*The risk in the intervention group (and its 95% confidence interval) is based on the assumed risk in the comparison group and the relative effect of the intervention (and its 95% CI).  
a. Serious risk of bias due to poor reporting of methodology.  
b. Serious inconsistency because only 1 RCT.  
c. Small number of patients, small event rate.  
d. The pooled effect crosses the line of no effect.

### 42a Progesterone LPS started on the day of OR compared to day after OR

**Patient or population:** women undergoing OS for IVF/ICSI  
**Intervention:** progesterone LPS started on the day of OR  
**Comparison:** progesterone LPS started on the day after OR

<table>
<thead>
<tr>
<th>Outcomes</th>
<th>Anticipated absolute effects* (95% CI)</th>
<th>Relative effect (95% CI)</th>
<th>No of participants (studies)</th>
<th>Certainty of the evidence (GRADE)</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Risk with progesterone LPS started on the day after OR</td>
<td>Risk with progesterone LPS started on the day of OR</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
| Cumulative LBR Live birth rate (Gao, et al., 2018) | 457 per 1,000  
(0 to 0) | 0 per 1,000  
(0 to 0) | not estimable  
(1 RCT) | ⨁⨁◯◯ | LOW  
*a,b* |

*The risk in the intervention group (and its 95% confidence interval) is based on the assumed risk in the comparison group and the relative effect of the intervention (and its 95% CI).  
a. Serious inconsistency because only 1 RCT.  
b. Small number of patients, small number of events
### 42b Progesterone LPS started on the evening of OR compared to evening of ET

**Patient or population:** women undergoing OS for IVF/ICSI  
**Intervention:** progesterone LPS started on the evening of OR  
**Comparison:** progesterone LPS started on the evening of ET

<table>
<thead>
<tr>
<th>Outcomes</th>
<th>Anticipated absolute effects* (95% CI)</th>
<th>Relative effect (95% CI)</th>
<th>No of participants (studies)</th>
<th>Certainty of the evidence (GRADE)</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Risk with progesterone LPS started on evening of ET</td>
<td>Risk with progesterone LPS started on the evening of OR</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cumulative LBR</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Not reported</td>
</tr>
<tr>
<td>Live birth rate</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(Mochtar, et al., 2006)</td>
<td>205 per 1,000</td>
<td>199 per 1,000 (123 to 319)</td>
<td>RR 0.97 (0.60 to 1.56)</td>
<td>255 (1 RCT)</td>
<td>🔻★★★★ VERY LOW a,b,c</td>
</tr>
<tr>
<td>Clinical PR</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(Baruffi, et al., 2003)</td>
<td>288 per 1,000</td>
<td>0 per 1,000 (0 to 0)</td>
<td>not estimable</td>
<td>103 (1 RCT)</td>
<td>🔻★★★★ VERY LOW a,b,c</td>
</tr>
<tr>
<td>Clinical PR</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(Fanchin, et al., 2001)</td>
<td>293 per 1,000</td>
<td>0 per 1,000 (0 to 0)</td>
<td>not estimable</td>
<td>84 (1 RCT)</td>
<td>🔻★★★★ VERY LOW a,b,c</td>
</tr>
</tbody>
</table>

*The risk in the intervention group (and its 95% confidence interval) is based on the assumed risk in the comparison group and the relative effect of the intervention (and its 95% CI).

a. Serious risk of bias due to incomplete reporting of methodology  
b. Serious inconsistency because only 1 RCT.  
c. Small number of patients, small number of events

### 42c Progesterone LPS started before OR compared to after OR

**Patient or population:** women undergoing OS for IVF/ICSI  
**Intervention:** progesterone LPS started before OR  
**Comparison:** progesterone LPS started after OR

<table>
<thead>
<tr>
<th>Outcomes</th>
<th>Anticipated absolute effects* (95% CI)</th>
<th>Relative effect (95% CI)</th>
<th>No of participants (studies)</th>
<th>Certainty of the evidence (GRADE)</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Risk with progesterone LPS started after OR</td>
<td>Risk with progesterone LPS started before OR</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cumulative LBR</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Not reported</td>
</tr>
<tr>
<td>Live birth rate</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(Mochtar, et al., 2006)</td>
<td>211 per 1,000</td>
<td>198 per 1,000 (122 to 321)</td>
<td>RR 0.94 (0.58 to 1.52)</td>
<td>258 (1 RCT)</td>
<td>🔻★★★★ VERY LOW a,b,c</td>
</tr>
<tr>
<td>Clinical PR</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(Sohn, et al., 1999)</td>
<td>246 per 1,000</td>
<td>0 per 1,000 (0 to 0)</td>
<td>not estimable</td>
<td>282 (1 RCT)</td>
<td>🔻★★★★ VERY LOW a,b,c</td>
</tr>
</tbody>
</table>

*The risk in the intervention group (and its 95% confidence interval) is based on the assumed risk in the comparison group and the relative effect of the intervention (and its 95% CI).

a. Serious risk of bias due to incomplete reporting of methodology  
b. Serious inconsistency because only 1 RCT.  
c. Small number of patients, small number of events
### 43  Progesterone LPS until pregnancy test compared to Progesterone LPS until week 6/7

**Patient or population:** women undergoing OS for IVF/ICSI  
**Intervention:** Progesterone LPS until pregnancy test  
**Comparison:** Progesterone LPS until week 6/7

<table>
<thead>
<tr>
<th>Outcomes</th>
<th>Anticipated absolute effects* (95% CI)</th>
<th>Relative effect (95% CI)</th>
<th>No of participants (studies)</th>
<th>Certainty of the evidence (GRADE)</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Risk with Progesterone LPS until week 6/7</td>
<td>Risk with Progesterone LPS until pregnancy test</td>
<td>Number of participants</td>
<td>certainty of the evidence (GRADE)</td>
<td></td>
</tr>
<tr>
<td>Live birth rate (Liu, et al., 2012)</td>
<td>815 per 1,000 (701 to 856)</td>
<td>774 per 1,000 (701 to 856)</td>
<td>RR 0.95 (0.86 to 1.05)</td>
<td>369 (2 RCTs)</td>
<td>☑️☑️◯◯ LOW a,b</td>
</tr>
<tr>
<td>Ongoing pregnancy rate (Liu, et al., 2012)</td>
<td>885 per 1,000 (796 to 929)</td>
<td>858 per 1,000 (796 to 929)</td>
<td>RR 0.97 (0.90 to 1.05)</td>
<td>1166 (6 RCTs)</td>
<td>☑️◯◯◯ VERY LOW a,b,c</td>
</tr>
</tbody>
</table>

*The risk in the intervention group (and its 95% confidence interval) is based on the assumed risk in the comparison group and the relative effect of the intervention (and its 95% CI).  

a. Serious risk of bias due to incomplete reporting of methodology in the primary studies  
b. The pooled effect includes the line of no effect.  
c. Serious heterogeneity between trials: I²=73%  

### 44a  Dydrogesterone compared to progesterone for luteal phase support

**Patient or population:** women undergoing OS for IVF/ICSI  
**Intervention:** dydrogesterone  
**Comparison:** progesterone

<table>
<thead>
<tr>
<th>Outcomes</th>
<th>Anticipated absolute effects* (95% CI)</th>
<th>Relative effect (95% CI)</th>
<th>No of participants (studies)</th>
<th>Certainty of the evidence (GRADE)</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Risk with progesterone</td>
<td>Risk with dydrogesterone</td>
<td>Number of participants</td>
<td>certainty of the evidence (GRADE)</td>
<td></td>
</tr>
<tr>
<td>Live birth/ongoing PR (Barbosa, et al., 2018)</td>
<td>237 per 1,000 (218 to 299)</td>
<td>256 per 1,000 (218 to 299)</td>
<td>RR 1.08 (0.92 to 1.26)</td>
<td>3386 (8 RCTs)</td>
<td>☑️☑️◯◯ MODERATE a</td>
</tr>
<tr>
<td>Live birth rate (Griesinger, et al., 2018)</td>
<td>325 per 1,000 (0 to 0)</td>
<td>0 per 1,000 (0 to 0)</td>
<td>not estimable</td>
<td>983 (1 RCT)</td>
<td>☑️◯◯◯ LOW b,c</td>
</tr>
</tbody>
</table>

*The risk in the intervention group (and its 95% confidence interval) is based on the assumed risk in the comparison group and the relative effect of the intervention (and its 95% CI).  

a. Very wide confidence intervals, the pooled effect included both the line of no effect and appreciable benefit or harm.  
b. Risk of performance bias  
c. Serious inconsistency because only 1 RCT
44b  **Dydrogesterone compared to placebo for luteal support**

**Patient or population:** women undergoing OS for IVF/ICSI  
**Intervention:** dydrogesterone  
**Comparison:** placebo

<table>
<thead>
<tr>
<th>Outcomes</th>
<th>Anticipated absolute effects* (95% CI)</th>
<th>Relative effect (95% CI)</th>
<th>№ of participants (studies)</th>
<th>Certainty of the evidence (GRADE)</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Risk with placebo</td>
<td>Risk with dydrogesterone</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cumulative LBR</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ongoing pregnancy</td>
<td>216 per 1,000</td>
<td>0 per 1,000 (0 to 0)</td>
<td>not estimable</td>
<td>105 (1 RCT)</td>
<td>✧✧✧✧</td>
</tr>
</tbody>
</table>

*The risk in the intervention group (and its 95% confidence interval) is based on the assumed risk in the comparison group and the relative effect of the intervention (and its 95% CI).*

a. Unknown risk of bias due to poor reporting of methodology.  
b. Serious inconsistency because only 1 RCT.  
c. Small number of patients, small event rate.

45  **Progesterone compared to progesterone and oestradiol for luteal phase support**

**Patient or population:** women undergoing OS for IVF/ICSI  
**Intervention:** progesterone  
**Comparison:** progesterone + oestradiol

<table>
<thead>
<tr>
<th>Outcomes</th>
<th>Anticipated absolute effects* (95% CI)</th>
<th>Relative effect (95% CI)</th>
<th>№ of participants (studies)</th>
<th>Certainty of the evidence (GRADE)</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Risk with progesterone + oestradiol</td>
<td>Risk with progesterone</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cumulative LBR</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Live birth/ongoing PR</td>
<td>375 per 1,000</td>
<td>402 per 1,000 (353 to 453)</td>
<td>OR 1.12 (0.91 to 1.38)</td>
<td>1651 (9 RCTs)</td>
<td>✧✧✧</td>
</tr>
<tr>
<td>(van der Linden, et al., 2015)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ongoing PR</td>
<td>364 per 1,000</td>
<td>0 per 1,000 (0 to 0)</td>
<td>not estimable</td>
<td>220 (1 RCT)</td>
<td>✧✧</td>
</tr>
<tr>
<td>(Ismail Madkour, et al., 2016)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>OHSS</td>
<td>39 per 1,000</td>
<td>23 per 1,000 (8 to 63)</td>
<td>OR 0.58 (0.20 to 1.68)</td>
<td>461 (2 RCTs)</td>
<td>✧✧</td>
</tr>
<tr>
<td>(van der Linden, et al., 2015)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*The risk in the intervention group (and its 95% confidence interval) is based on the assumed risk in the comparison group and the relative effect of the intervention (and its 95% CI).*

a. Very wide confidence intervals, the pooled effect included both the line of no effect and appreciable benefit or harm.  
b. Risk of performance bias  
c. Serious inconsistency because only 1 RCT  
d. Inadequate reporting of study methods. Risk of bias unclear in most domains of most studies.  
e. Small number of events
### 46a  hCG compared to no intervention for luteal phase support

**Patient or population:** women undergoing OS for IVF/ICSI  
**Intervention:** hCG  
**Comparison:** no intervention

<table>
<thead>
<tr>
<th>Outcomes</th>
<th>Anticipated absolute effects* (95% CI)</th>
<th>Relative effect (95% CI)</th>
<th>No of participants (studies)</th>
<th>Certainty of the evidence (GRADE)</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Risk with no intervention</td>
<td>Risk with hCG</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cumulative LBR</td>
<td>Not reported</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Live birth/ongoing PR (van der Linden, et al., 2015)</td>
<td>119 per 1,000 (127 to 278)</td>
<td>191 per 1,000</td>
<td>OR 1.76 (1.08 to 2.86)</td>
<td>527 (3 RCTs)</td>
<td>☑️☑️◯◯ LOW a,b,c</td>
</tr>
<tr>
<td>OHSS (van der Linden, et al., 2015)</td>
<td>41 per 1,000 (76 to 292)</td>
<td>155 per 1,000</td>
<td>OR 4.28 (1.91 to 9.60)</td>
<td>387 (1 RCT)</td>
<td>☑️◯◯◯ VERY LOW a,c,d</td>
</tr>
</tbody>
</table>

*The risk in the intervention group (and its 95% confidence interval) is based on the assumed risk in the comparison group and the relative effect of the intervention (and its 95% CI).

a. Inadequate reporting of study methods. Risk of bias unclear in most domains of most studies.  
b. Effect estimate with wide confidence intervals.  
c. Very small number of events.  
d. Serious inconsistency because only 1 RCT.

### 46b  hCG compared to progesterone for luteal phase support

**Patient or population:** women undergoing OS for IVF/ICSI  
**Intervention:** hCG  
**Comparison:** progesterone

<table>
<thead>
<tr>
<th>Outcomes</th>
<th>Anticipated absolute effects* (95% CI)</th>
<th>Relative effect (95% CI)</th>
<th>No of participants (studies)</th>
<th>Certainty of the evidence (GRADE)</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Risk with progesterone</td>
<td>Risk with hCG</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cumulative LBR</td>
<td>Not reported</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Live birth/ongoing PR (van der Linden, et al., 2015)</td>
<td>249 per 1,000 (152 to 342)</td>
<td>234 per 1,000</td>
<td>OR 0.92 (0.54 to 1.57)</td>
<td>434 (4 RCTs)</td>
<td>☑️☑️◯◯ LOW a,b,c</td>
</tr>
<tr>
<td>OHSS (van der Linden, et al., 2015)</td>
<td>68 per 1,000 (23 to 68)</td>
<td>40 per 1,000</td>
<td>OR 0.57 (0.32 to 1.00)</td>
<td>615 (4 RCTs)</td>
<td>☑️◯◯◯ LOW a,c,d</td>
</tr>
</tbody>
</table>

*The risk in the intervention group (and its 95% confidence interval) is based on the assumed risk in the comparison group and the relative effect of the intervention (and its 95% CI).

a. Inadequate reporting of study methods. Risk of bias unclear in most domains of most studies.  
b. Effect estimate with wide confidence intervals, the pooled effect included the line of no effect  
c. Low event rate  
d. Effect estimate with wide confidence intervals.
### 46c hCG compared to progesterone and oestradiol for luteal phase support

**Patient or population:** women undergoing OS for IVF/ICSI  
**Intervention:** hCG  
**Comparison:** progesterone and oestradiol

<table>
<thead>
<tr>
<th>Outcomes</th>
<th>Anticipated absolute effects* (95% CI)</th>
<th>Relative effect (95% CI)</th>
<th>No of participants (studies)</th>
<th>Certainty of the evidence (GRADE)</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Risk with progesterone+oestradiol</td>
<td>Risk with hCG</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cumulative LBR</td>
<td>Not reported</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Clinical PR</td>
<td>320 per 1,000</td>
<td>317 per 1,000 (160 to 614)</td>
<td>RR 0.99 (0.50 to 1.92)</td>
<td>91 (1 RCT)</td>
<td>⬤◯◯◯ VERY LOW a,b,c,d</td>
</tr>
</tbody>
</table>

*The risk in the intervention group (and its 95% confidence interval) is based on the assumed risk in the comparison group and the relative effect of the intervention (and its 95% CI).*

a. Inadequate reporting of study methods. Risk of bias unclear in most domains of most studies.  
b. Serious inconsistency because only 1 RCT.  
c. Small number of events.  
d. Effect estimate with wide confidence intervals.

### 47 Progesterone with GnRH agonist bolus compared to progesterone for luteal phase support

**Patient or population:** women undergoing OS for IVF/ICSI  
**Intervention:** progesterone with GnRH agonist bolus  
**Comparison:** progesterone

<table>
<thead>
<tr>
<th>Outcomes</th>
<th>Anticipated absolute effects* (95% CI)</th>
<th>Relative effect (95% CI)</th>
<th>No of participants (studies)</th>
<th>Certainty of the evidence (GRADE)</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Risk with progesterone</td>
<td>Risk with progesterone+GnRHa</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cumulative LBR</td>
<td>Not reported</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Live birth/ongoing PR</td>
<td>289 per 1,000</td>
<td>193 per 1,000 (137 to 261)</td>
<td>OR 0.59 (0.39 to 0.87)</td>
<td>1536 (5 RCTs)</td>
<td>⬤◯◯◯ LOW a,b</td>
</tr>
<tr>
<td>(van der Linden, et al.,</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2015)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>OHSS</td>
<td>53 per 1,000</td>
<td>53 per 1,000 (18 to 143)</td>
<td>OR 1.00 (0.33 to 3.01)</td>
<td>195 (1 RCT)</td>
<td>⬤◯◯◯ VERY LOW c,d,e</td>
</tr>
<tr>
<td>(van der Linden, et al.,</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2015)</td>
<td></td>
<td></td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>

*The risk in the intervention group (and its 95% confidence interval) is based on the assumed risk in the comparison group and the relative effect of the intervention (and its 95% CI).*

a. Evidence of significant heterogeneity (I²=59%)  
b. Effect estimate with very wide confidence intervals.  
c. Lack of detail to make a judgement of risk of bias  
d. Serious inconsistency because only 1 RCT.  
e. Small number of patients, low event rate
### 48 Progesterone with repeated GnRH agonist doses compared to progesterone for luteal phase support

**Patient or population:** women undergoing OS for IVF/ICSI  
**Intervention:** progesterone with repeated doses of GnRH agonist  
**Comparison:** progesterone

<table>
<thead>
<tr>
<th>Outcomes</th>
<th>Anticipated absolute effects* (95% CI)</th>
<th>Relative effect (95% CI)</th>
<th>No of participants (studies)</th>
<th>Certainty of the evidence (GRADE)</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Risk with progesterone</td>
<td>Risk with progesterone+repeated GnRHa</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Cumulative LBR</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Live birth/ongoing PR</td>
<td>256 per 1,000 (126 to 252)</td>
<td><strong>180 per 1,000</strong> (0.42 to 0.98)</td>
<td>1325 (5 RCTs)</td>
<td>⬤□□□ ▪ ▪ ▪ ▪ ▪ ▪ ▪ ▪ ▪ ▪ ▪</td>
<td>LOW a,b,c</td>
</tr>
<tr>
<td>OHSS</td>
<td>53 per 1,000 (18 to 143)</td>
<td><strong>53 per 1,000</strong> (0.33 to 3.01)</td>
<td>179 (1 RCT)</td>
<td>⬤□□□ ▪ ▪ ▪ ▪ ▪ ▪ ▪ ▪ ▪ ▪ ▪</td>
<td>VERY LOW d,e,f</td>
</tr>
</tbody>
</table>

*The risk in the intervention group (and its 95% confidence interval) is based on the assumed risk in the comparison group and the relative effect of the intervention (and its 95% CI).*

a. Evidence of significant heterogeneity (I²=60%)  
b. Effect estimate with wide confidence intervals.  
c. Small number of events.  
d. Lack of detail to make a judgement of risk of bias  
e. Serious inconsistency because only 1 RCT.  
f. Small number of patients, low event rate

### 49 LH compared to progesterone for luteal phase support

**Patient or population:** women undergoing OS for IVF/ICSI  
**Intervention:** LH  
**Comparison:** progesterone

<table>
<thead>
<tr>
<th>Outcomes</th>
<th>Anticipated absolute effects* (95% CI)</th>
<th>Relative effect (95% CI)</th>
<th>No of participants (studies)</th>
<th>Certainty of the evidence (GRADE)</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Risk with progesterone</td>
<td>Risk with LH</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Cumulative LBR</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Live birth rate</td>
<td>235 per 1,000 (0 to 0)</td>
<td>0 per 1,000 (0 to 0)</td>
<td>35 (1 RCT)</td>
<td>⬤□□□ ▪ ▪ ▪ ▪ ▪ ▪ ▪ ▪ ▪ ▪ ▪</td>
<td>LOW a,b</td>
</tr>
<tr>
<td>OHSS</td>
<td>0 per 1,000 (0 to 0)</td>
<td>0 per 1,000 (0 to 0)</td>
<td>35 (1 RCT)</td>
<td>⬤□□□ ▪ ▪ ▪ ▪ ▪ ▪ ▪ ▪ ▪ ▪ ▪</td>
<td>LOW a,b</td>
</tr>
</tbody>
</table>

*The risk in the intervention group (and its 95% confidence interval) is based on the assumed risk in the comparison group and the relative effect of the intervention (and its 95% CI).*

a. Serious inconsistency because only 1 RCT.  
b. Small number of patients, small event rate.
### GnRH agonist compared to hCG for final oocyte maturation in high responders

**Patient or population:** high responder women undergoing OS for IVF/ICSI

**Intervention:** GnRH agonist

**Comparison:** hCG

<table>
<thead>
<tr>
<th>Outcomes</th>
<th>Anticipated absolute effects* (95% CI)</th>
<th>Relative effect (95% CI)</th>
<th>No of participants (studies)</th>
<th>Certainty of the evidence (GRADE)</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Cumulative LBR</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Not reported</td>
</tr>
<tr>
<td>Moderate/severe OHSS (Youssef, et al., 2014)</td>
<td>107 per 1,000</td>
<td><strong>11 per 1,000</strong> (2 to 59)</td>
<td><strong>OR 0.09</strong> (0.02 to 0.52)</td>
<td>212 (3 RCTs)</td>
<td>⬤⬤◯◯ LOW&lt;sup&gt;a,b&lt;/sup&gt;</td>
</tr>
<tr>
<td>Live birth rate (Babayof, et al., 2006)</td>
<td>154 per 1,000</td>
<td>0 per 1,000 (0 to 0)</td>
<td>not estimable</td>
<td>28 (1 RCT)</td>
<td>⬤⬤◯◯ LOW&lt;sup&gt;c,d&lt;/sup&gt;</td>
</tr>
<tr>
<td>Ongoing PR (Engmann, et al., 2008)</td>
<td>483 per 1,000</td>
<td>0 per 1,000 (0 to 0)</td>
<td>not estimable</td>
<td>59 (1 RCT)</td>
<td>⬤⬤⬤⬤ VERY LOW&lt;sup&gt;c,d,e&lt;/sup&gt;</td>
</tr>
<tr>
<td>Ongoing PR (Humaidan, et al., 2013)</td>
<td>259 per 1,000</td>
<td><strong>282 per 1,000</strong> (155 to 512)</td>
<td><strong>RR 1.09</strong> (0.60 to 1.98)</td>
<td>118 (1 RCT)</td>
<td>⬤⬤⬤⬤ VERY LOW&lt;sup&gt;c,d,e&lt;/sup&gt;</td>
</tr>
</tbody>
</table>

*The risk in the intervention group (and its 95% confidence interval) is based on the assumed risk in the comparison group and the relative effect of the intervention (and its 95% CI).*

- **a.** Serious risk of bias due to incomplete reporting of methodology in the primary studies
- **b.** Small number of events
- **c.** Serious inconsistency because only 1 RCT
- **d.** Small number of patients, small number of events
- **e.** Serious risk of bias due to incomplete reporting of methodology

---

*The risks in the intervention groups (and their 95% confidence intervals) are based on the assumed risk in the comparison group and the relative effect of the intervention (and its 95% CI).*

- **Moderate/severe OHSS (Youssef, et al., 2014):** 11 per 1,000 (95% CI: 2 to 59), odds ratio (OR) 0.09 (95% CI: 0.02 to 0.52), 212 participants (3 RCTs), **LOW** risk (GRADE: ⬤⬤◯◯).**
- **Live birth rate (Babayof, et al., 2006):** 0 per 1,000 (95% CI: 0 to 0), not estimable, 28 participants (1 RCT), **LOW** risk (GRADE: ⬤⬤◯◯).**
- **Ongoing PR (Engmann, et al., 2008):** 0 per 1,000 (95% CI: 0 to 0), not estimable, 59 participants (1 RCT), **LOW** risk (GRADE: ⬤⬤⬤⬤).**
- **Ongoing PR (Humaidan, et al., 2013):** 282 per 1,000 (95% CI: 155 to 512), relative risk (RR) 1.09 (95% CI: 0.60 to 1.98), 118 participants (1 RCT), **LOW** risk (GRADE: ⬤⬤⬤⬤).**
### 50b Fresh transfer compared to freeze-all for prevention of OHSS in high responders

**Patient or population:** High responder women undergoing OS for IVF/ICSI  
**Intervention:** Fresh transfer  
**Comparison:** Freeze-all

<table>
<thead>
<tr>
<th>Outcomes</th>
<th>Anticipated absolute effects* (95% CI)</th>
<th>Relative effect (95% CI)</th>
<th>№ of participants (studies)</th>
<th>Certainty of the evidence (GRADE)</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cumulative LBR</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Not reported</td>
</tr>
<tr>
<td>Live birth rate (Aflatoonian, et al., 2018)</td>
<td>273 per 1,000</td>
<td>277 per 1,000 (176 to 403)</td>
<td>OR 1.02 (0.57 to 1.80)</td>
<td>240 (1 RCT)</td>
<td>★★★★ VERY LOW ab,c</td>
</tr>
<tr>
<td>Live birth rate (Karacan, et al., 2017)</td>
<td>417 per 1,000</td>
<td>0 per 1,000 (0 to 0)</td>
<td>not estimable</td>
<td>122 (1 observational study)</td>
<td>★★★★ VERY LOW ab,d</td>
</tr>
<tr>
<td>moderate OHSS (Aflatoonian, et al., 2018)</td>
<td>58 per 1,000</td>
<td>0 per 1,000 (0 to 0)</td>
<td>not estimable</td>
<td>240 (1 RCT)</td>
<td>★★★★ VERY LOW ab,c</td>
</tr>
<tr>
<td>moderate/severe OHSS (Karacan, et al., 2017)</td>
<td>0 per 1,000</td>
<td>0 per 1,000 (0 to 0)</td>
<td>not estimable</td>
<td>122 (1 observational study)</td>
<td>★★★★ VERY LOW ab,d</td>
</tr>
</tbody>
</table>

*The risk in the intervention group (and its 95% confidence interval) is based on the assumed risk in the comparison group and the relative effect of the intervention (and its 95% CI).*

- **a.** Risk of selection and/or performance bias
- **b.** Serious inconsistency because only 1 study
- **c.** Small number of events
- **d.** Small number of patients, small number of events

### 51 GnRH agonist compared to hCG non-10.000 IU for final oocyte maturation in high responders

**Patient or population:** High responder women undergoing OS for IVF/ICSI  
**Intervention:** GnRH agonist  
**Comparison:** hCG non-10.000 IU

<table>
<thead>
<tr>
<th>Outcomes</th>
<th>Anticipated absolute effects* (95% CI)</th>
<th>Relative effect (95% CI)</th>
<th>№ of participants (studies)</th>
<th>Certainty of the evidence (GRADE)</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cumulative LBR</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Not reported</td>
</tr>
<tr>
<td>OHSS (Humaidan, et al., 2013)</td>
<td>34 per 1,000</td>
<td>0 per 1,000 (0 to 0)</td>
<td>not estimable</td>
<td>118 (1 RCT)</td>
<td>★★★★★ VERY LOW ab,c</td>
</tr>
<tr>
<td>Ongoing PR (Humaidan, et al., 2013)</td>
<td>259 per 1,000</td>
<td>282 per 1,000 (155 to 512)</td>
<td>RR 1.09 (0.60 to 1.98)</td>
<td>118 (1 RCT)</td>
<td>★★★★★ VERY LOW ab,c</td>
</tr>
</tbody>
</table>

*The risk in the intervention group (and its 95% confidence interval) is based on the assumed risk in the comparison group and the relative effect of the intervention (and its 95% CI).*

- **a.** Serious risk of bias due to incomplete reporting of methodology
- **b.** Serious inconsistency because only 1 RCT
- **c.** Small number of patients, small number of events
## 52a Freeze-all protocol compared to fresh transfer for prevention of OHSS

**Patient or population:** women undergoing OS for IVF/ICSI  
**Intervention:** Freeze-all protocol  
**Comparison:** fresh transfer

<table>
<thead>
<tr>
<th>Outcomes</th>
<th>Anticipated absolute effects* (95% CI)</th>
<th>Relative effect (95% CI)</th>
<th>No of participants (studies)</th>
<th>Certainty of the evidence (GRADE)</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Risk with fresh transfer</td>
<td>Risk with Freeze-all protocol</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cumulative LBR</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Not reported</td>
</tr>
<tr>
<td>Live birth rate (Wong, et al., 2017)</td>
<td>579 per 1,000</td>
<td>600 per 1,000 (556 to 643)</td>
<td>OR 1.09 (0.91 to 1.31)</td>
<td>1892 (4 RCTs)</td>
<td>☑️ ☐ ☐ MODERATE a</td>
</tr>
<tr>
<td>Live birth rate (Shi, et al., 2018)</td>
<td>502 per 1,000</td>
<td>487 per 1,000 (447 to 532)</td>
<td>Rate ratio 0.97 (0.89 to 1.06)</td>
<td>2157 (1 RCT)</td>
<td>☑️ ☑️ ☐ LOW a,b,c</td>
</tr>
<tr>
<td>Live birth rate (Vuong, et al., 2018)</td>
<td>315 per 1,000</td>
<td>337 per 1,000 (277 to 412)</td>
<td>RR 1.07 (0.88 to 1.31)</td>
<td>782 (1 RCT)</td>
<td>☑️ ☑️ ☐ LOW a,b,c</td>
</tr>
<tr>
<td>OHSS (Wong, et al., 2017)</td>
<td>70 per 1,000</td>
<td>18 per 1,000 (11 to 28)</td>
<td>OR 0.24 (0.15 to 0.38)</td>
<td>1633 (2 RCTs)</td>
<td>☑️ ☐ ☐ LOW d,e</td>
</tr>
<tr>
<td>OHSS (Shi, et al., 2018)</td>
<td>20 per 1,000</td>
<td>7 per 1,000 (3 to 15)</td>
<td>Rate ratio 0.32 (0.14 to 0.74)</td>
<td>2157 (1 RCT)</td>
<td>☑️ ☑️ ☐ LOW b,c,e</td>
</tr>
<tr>
<td>OHSS (Vuong, et al., 2018)</td>
<td>10 per 1,000</td>
<td>8 per 1,000 (2 to 34)</td>
<td>RR 0.75 (0.17 to 3.33)</td>
<td>782 (1 RCT)</td>
<td>☑️ ☑️ ☐ LOW b,c,e</td>
</tr>
</tbody>
</table>

*The risk in the intervention group (and its 95% confidence interval) is based on the assumed risk in the comparison group and the relative effect of the intervention (and its 95% CI).

- a. The confidence interval included the line of no effect.
- b. Possible risk of performance bias.
- c. Serious inconsistency because only 1 RCT.
- d. Data not reported per cycle
- e. Small number of events

## 52b Freeze-all protocol compared to intra-venous albumin for prevention of OHSS

**Patient or population:** women undergoing OS for IVF/ICSI  
**Intervention:** Freeze-all protocol  
**Comparison:** intra-venous albumin

<table>
<thead>
<tr>
<th>Outcomes</th>
<th>Anticipated absolute effects* (95% CI)</th>
<th>Relative effect (95% CI)</th>
<th>No of participants (studies)</th>
<th>Certainty of the evidence (GRADE)</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Risk with albumin</td>
<td>Risk with Freeze-all</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cumulative LBR</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Not reported</td>
</tr>
<tr>
<td>Moderate/severe OHSS (D’Angelo and Amso, 2007)</td>
<td>308 per 1,000</td>
<td>703 per 1,000 (185 to 962)</td>
<td>OR 5.33 (0.51 to 56.24)</td>
<td>26 (1 RCT)</td>
<td>☑️ ☑️ ☑️ VERY LOW a,b,c</td>
</tr>
<tr>
<td>Clinical PR (D’Angelo and Amso, 2007)</td>
<td>0 per 1,000</td>
<td>0 per 1,000 (0 to 0)</td>
<td>OR 0.06 (0.00 to 1.17)</td>
<td>26 (1 RCT)</td>
<td>☑️ ☑️ ☑️ LOW a,b,d</td>
</tr>
</tbody>
</table>

*The risk in the intervention group (and its 95% confidence interval) is based on the assumed risk in the comparison group and the relative effect of the intervention (and its 95% CI).

- a. Study was not blinded
- b. Serious inconsistency because only 1 RCT
- c. Very wide confidence interval that included the line of no effect
- d. Very wide confidence interval
REFERENCES


Tso LO, Costello MF, Albuquerque LE, Andriolo RB, Macedo CR. Metformin treatment before and during IVF or ICSI in women with polycystic ovary syndrome. *The Cochrane database of systematic reviews* 2014: Cd006105.


