**Supplemental Table 21. Risk of bias and quality of included studies**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Checklist Cohort** | **Selection bias** | **Performance bias** | **Attrition bias** | **Detection bias** | **Statistical analysis** | **Applicable to patient group** | **Statement** |
| **Author – Year** | **R** | **1.2** | **1.3** | **1.4** | **1.5** | **1.6** | **1.7** | **1.8** | **1.9** | **1.10** | **1.11** | **1.12** | **1.13** | **1.14** |  |  |
| Abelha – 2012 [1] | JWD | ● | ● | ● | 0% | ● | ● | ● | ● | ● | ● | n/a | ● | ● | ● | ++ |
| IJZ | ● | ● | ● | 3% | n/a | ● | ● | n/a | ● | ● | n/a | ● | ● | ○ | + |
| Agarwal – 2010 [2] | JWD | ● | ● | ? | 0% | n/a | ● | ○ | ● | ● | ● | ● | ● | ● | ● | + |
| IJZ | ● | ● | ● | 0% | n/a | ● | ○ | ○ | ● | ● | ● | ● | ● | ● | ++ |
| RRvdL | n/a | ● | ● | 0% | n/a | ● | n/a | ○ | ● | ● | ● | ● | ● | ● | ++ |
| BvdL | ● | n/a | ? | 0% | n/a | ● | n/a | ○ | ● | ● | ○ | ● | ● | ● | + |
| Aldemir – 2001 [3] | JWD | ? | n/a | ● | 0% | n/a | ● | n/a | ○ | ● | ● | ● | ● | ● | ● | + |
| IJZ | ○ | ● | ○ | 0% | n/a | ● | n/a | ○ | ● | ● | ● | ● | ● | ● | + |
| Angles – 2008 [4] | JWD | ● | n/a | ● | 0% | n/a | ● | n/a | ○ | ● | ● | ● | ● | ● | ● | ++ |
| IJZ | n/a | ○ | ○ | 0% | n/a | ● | n/a | ○ | ● | ● | ● | ● | ● | ○ | + |
| Ballestero – 2013 [5]  | JWD | n/a | n/a | ? | 0% | ? | ? | ? | ? | ● | ● | ● | ● | ● | ● | + |
| IJZ | n/a | n/a | ? | 0% | n/a | ? | ? | ? | ? | ● | ● | ● | ● | ● | - |
| Boesen – 2015 [6] | RRvdL |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| BvdL | ● | ● | ○ | 0% | n/a | ● | ● | n/a | ○ | ● | ○ | ○ | ○ | ○ | - |
| Bryczkowski – 2014 [7] | RRvdL |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| BvdL | n/a | n/a | ○ | 0% | n/a | ● | n/a | ○ | ● | ● | ● | ● | ● | ● | + |
| Colombo – 2012 [8] | JWD | ○ | ● | ? | ? | ? | ● | ○ | ● | ● | ● | ● | ○ | ○ | ● | + |
| IJZ | ● | ● | ○ | 0% | n/a | ● | ○ | ○ | ● | ● | ● | ○ | ● | ● | + |
| RRvdL | ○ | ● | ○ | 0% | n/a | ● | ○ | ○ | ● | ● | ● | ● | ● | ● | + |
| BvdL | ● | ● | ○ | 0 | n/a | ● | ○ | ○ | ● | ● | ● | ○ | ● | ● | + |
| **Checklist Cohort** | **Selection bias** | **Performance bias** | **Attrition bias** | **Detection bias** | **Statistical analysis** | **Applicable to patient group** | **Statement** |
| **Author – Year** | **R** | **1.2** | **1.3** | **1.4** | **1.5** | **1.6** | **1.7** | **1.8** | **1.9** | **1.10** | **1.11** | **1.12** | **1.13** | **1.14** |  |  |
| Dubois – 2001[9] | JWD | ● | n/a | ● | 0% | ● | ● | ● | n/a | ● | ● | ● | ● | ● | ● | ++ |
| IJZ | n/a | ● | ● | 0% | n/a | ● | n/a | n/a | ● | ● | ● | ● | ● | ● | + |
| Ely – 2007 [10] | JWD | ● | ● | ● | 0% | ? | ● | ● | n/a | ● | ● | n/a | ● | ● | ● | ++ |
| IJZ | ● | ○ | ○ | 0% | n/a | ● | ● | n/a | ● | ● | ○ | ● | ● | ● | + |
| Girard - 2012 [11] | JWD | ● | n/a | ● | 0% | n/a | ● | ● | n/a | ● | ● | ● | ● | ● | ● | ++ |
| IJZ | n/a | ○ | ○ | 0% | n/a | ● | ● | n/a | ● | ● | ● | ○ | ● | ● | + |
| RRvdL | n/a | ○ | ○ | ? | n/a | ● | ● | ● | ● | ● | ● | ● | ● | ● | + |
| BvdL | n/a | ○ | ○ | ? | ○ | ● | ● | ● | ● | ● | ● | ● | ● | ● | + |
| Guenther – 2013 [12] | RRvdL | n/a | ● | ○ | 8% | ○ | ● | ? | ○ | ● | ● | ● | ● | ● | ● | + |
| BvdL | n/a | ● | ○ | 0% | n/a | ● | n/a | ○ | ● | ● | ● | ● | ● | ● | + |
| Guillamondegui – 2011 [13] | JWD | ● | n/a | n/a | 0% | n/a | ● | n/a | n/a | ● | ● | ● | ● | ● | ● | ++ |
| IJZ | n/a | ○ | ○ | 0% | n/a | ● | ● | n/a | ● | ● | ● | ● | ● | ○ | + |
| Hayes – 2012 [14] | JWD | ? | n/a | n/a | ? | n/a | ○ | n/a | ? | ? | ● | ? | ○ | ○ | ○ | - |
| IJZ | n/a | ? | ? | 0% | n/a | ? | ○ | ? | ? | ● | ? | ? | ● | ● | + |
| Heymann – 2007 [15] | JWD | ● | n/a | n/a | 0% | n/a | ● | ● | ? | ● | ● | ? | ● | ● | ● | + |
| IJZ | ● | ○ | ○ | 0% | n/a | ● | n/a | n/a | ● | ● | ● | ● | ● | ● | + |
| Hsieh – 2013 [16] | RRvdL | n/a | ● | ○ | 3% | n/a | ● | ? | n/a | ● | ● | n/a | ● | ● | ● | + |
| BvdL |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Kamdar – 2015 [17] | RRvdL | n/a | ? | ● | ? | n/a | ● | ○ | ○ | ● | ● | ● | ● | ● | ● | ++ |
| BvdL | n/a | n/a | ● | 0% | n/a | ● | ? | ○ | ● | ● | ● | ● | ● | ● | + |
| Kwizera – 2015 [18] | RRvdL |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| BvdL | n/a | n/a | ○ | 0% | n/a | ● | n/a | n/a | ? | ● | ? | ○ | ● | ○ | -  |
| **Checklist Cohort** | **Selection bias** | **Performance bias** | **Attrition bias** | **Detection bias** | **Statistical analysis** | **Applicable to patient group** | **Statement** |
| **Author – Year** | **R** | **1.2** | **1.3** | **1.4** | **1.5** | **1.6** | **1.7** | **1.8** | **1.9** | **1.10** | **1.11** | **1.12** | **1.13** | **1.14** |  |  |
| Lat – 2009 [19] | JWD | ● | n/a | n/a | 0% | n/a | ● | n/a | n/a | ● | ● | ● | ○ | ○ | ○ | + |
| IJZ | n/a | ● | ○ | <1% | n/a | ● | ● | n/a | ● | ● | ○ | ○ | ○ | ● | - |
| Leite – 2014 [20] | RRvdL | n/a | n/a | ○ | 0% | n/a | ● | ? | ○ | ● | ● | ? | ? | ○ | ● | + |
| BvdL | n/a | n/a | ○ | 0% | n/a | ● | n/a | n/a | ● | ● | ? | ● | ○ | ● | + |
| Lescot – 2013 [21] | RRvdL |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| BvdL | n/a | n/a | ○ | 0% | n/a | ● | n/a | n/a | ● | ○ | n/a | ● | ● | ● | - |
| Limpawattana – 2016 [22] | RRvdL |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| BvdL | n/a | n/a | ○ | 0% | n/a | ● | n/a | n/a | ● | ● | ? | ● | ● | ● | + |
| Lin – 2008 [23] | JWD | ● | n/a | n/a | 4% | n/a | ● | n/a | n/a | ● | ● | ● | ● | ● | ● | + |
| IJZ | ● | ● | ● | 4% | n/a | ● | n/a | n/a | ● | ● | ○ | ● | ● | ● | + |
| Lin – 2015 [24] | RRvdL |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| BvdL | n/a | n/a | ? | 0 | n/a | ● | n/a | n/a | ● | ● | ● | ● | ● | ● | + |
| McGrane – 2011 [25] | JWD |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| IJZ | ○ | ● | ○ | 15% | n/a | ● | n/a | n/a | ● | ● | ○ | ● | ● | ● | + |
| McNicoll – 2003 [26] | JWD | ● | n/a | n/a | 0% | n/a | ● | ● | n/a | ● | ● | ● | ● | ● | ● | + |
| IJZ | ● | ● | ● | 0% | ● | ● | ● | n/a | ● | ● | n/a | ● | ● | ○ | + |
| RRvdL | n/a | n/a | ● | 0% | n/a | ● | ● | n/a | ● | ● | ○ | ● | ● | ● | + |
| BvdL | ● | ● | ○ | 0 | ● | ● | ● | n/a | ● | ● | ● | ○ | ● | ● | + |
| Mehta – 2015 [27] | RRvdL | n/a | ○ | ○ | 2% | n/a | ● | ○ | n/a | ● | ● | ● | ● | ● | ● | + |
| BvdL | n/a | n/a | ○ | 2% | n/a | ● | ○ | n/a | ● | ● | ● | ● | ● | ● | + |
| Morandi – 2011 [28] | JWD | ● | n/a | n/a | 0% | n/a | ● | ● | n/a | ● | ● | ● | ● | ● | ● | ++ |
| IJZ | n/a | n/a | ○ | 0% | n/a | ● | n/a | n/a | ● | ● | ○ | ● | ● |  ● | + |
| RRvdL | n/a | n/a | ○ | 0% | n/a | ● | ? | ○ | ● | ● | ○ | ● | ● | ● | + |
| BvdL | n/a | ○ | ○ | 0 | n/a | ● | ○ | ○ | ● | ● | ○ | ● | ● | ● | + |
| **Checklist Cohort** | **Selection bias** | **Performance bias** | **Attrition bias** | **Detection bias** | **Statistical analysis** | **Applicable to patient group** | **Statement** |
| **Author – Year** | **R** | **1.2** | **1.3** | **1.4** | **1.5** | **1.6** | **1.7** | **1.8** | **1.9** | **1.10** | **1.11** | **1.12** | **1.13** | **1.14** |  |  |
| Morandi – 2013 [29] | JWD | ● | n/a | n/a | 0% | n/a | ● | n/a | n/a | ● | ● | ● | ● | ● | ● | ++ |
| IJZ | ● | ● | ○ | 0% | n/a | ● | n/a | n/a | ● | ● | ○ | ● | ● | ● | + |
| Ouimet – 2007 [30] | JWD |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| IJZ | n/a | ● | ○ | 0% | n/a | ● | n/a | n/a | ● | ● | n/a | ● | ● | ● | ++ |
| Pandharipande – 2006 [31] | JWD |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| IJZ | n/a | ● | ○ | 0% | n/a | ● | ○ | ○ | ● | ● | n/a | ● | ● | ● | ++ |
| Pandharipande – 2008 [32] | JWD |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| IJZ | n/a | ● | ○ | 0% | n/a | ● | n/a | n/a | ● | ● | ● | ● | ● | ● | ++ |
| Pandharipande – 2009 [33] | JWD |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| IJZ | n/a | ● | ○ | 0% | n/a | ● | n/a | n/a | ● | ● | ● | ● | ○ | ● | + |
| Pisani – 2007 [34] | JWD |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| IJZ | n/a | ● | ○ | 0% | n/a | ● | n/a | n/a | ● | ● | ○ | ○ | ● | ● | + |
| Pisani – 2009 [35] | JWD |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| IJZ | n/a | ● | ○ | 0% | n/a | ● | n/a | n/a | ● | ● | ○ | ○ | ● | ● | + |
| Robinson – 2009 [36] | JWD |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| IJZ | ● | ● | ○ | 0% | n/a | ● | n/a | n/a | ● | ● | ○ | ● | ○ | ○ | - |
| Saporito – 2014 [37] | RRvdL | n/a | ○ | ○ | 0% | n/a | ● | ? | ○ | ? | ● | ? | ● | ○ | ● | - |
| BvdL | n/a | n/a | ○ | 0% | n/a | ● | ? | ○ | ? | ● | n/a | ● | ○ | ● | - |
| Schreiber – 2014 [38] | RRvdL | n/a | ○ | ● | ? | n/a | ● | ? | ○ | ● | ● | ● | ● | ● | ● | ++ |
| BvdL |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Serafim – 2012 [39] | JWD |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| IJZ | n/a | ● | ○ | 0% | n/a | ● | n/a | n/a | ● | ● | ○ | ● | ● | ● | ++ |
| **Checklist Cohort** | **Selection bias** | **Performance bias** | **Attrition bias** | **Detection bias** | **Statistical analysis** | **Applicable to patient group** | **Statement** |
| **Author – Year** | **R** | **1.2** | **1.3** | **1.4** | **1.5** | **1.6** | **1.7** | **1.8** | **1.9** | **1.10** | **1.11** | **1.12** | **1.13** | **1.14** |  |  |
| Seymour – 2012 [40] | JWD |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| IJZ | n/a | ● | ○ | 0% | n/a | ● | ○ | ○ | ● | ● | ● | ● | ● | ● | + |
| Sharshar – 2011 [41] | JWD |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| IJZ | n/a | ● | ○ | 0% | n/a | ● | ● | n/a | ● | ○ | ● | ● | ● | ○ | - |
| Shehabi – 2010 [42] | JWD |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| IJZ | ● | ● | ● | 0% | n/a | ● | n/a | n/a | ● | ● | ● | ● | ● | ● | - |
| Shehabi – 2013 [43] | JWD |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| IJZ | n/a | ● | ● | 0% | n/a | ● | n/a | n/a | ● | ● | ● | ● | ● | ● | + |
| Shi – 2010 [44] | JWD |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| IJZ | n/a | ● | ○ | 0% | n/a | ● | n/a | n/a | ● | ● | ● | ● | ● | ● | + |
| Simons – 2014 [45] | RRvdL | n/a | n/a | n/a | 0% | n/a | ● | n/a | ● | ? | ● | ○ | ● | ● | ● | + |
| BvdL | n/a | n/a | n/a | 0% | n/a | ● | n/a | ● | ● | ● | ○ | ● | ● | ● | + |
| Skrobik – 2013[46] | RRvdL | n/a | ○ | ? | 0% | n/a | ● | ○ | ● | ● | ● | ○ | ● | ○ | ● | + |
| BvdL | n/a | n/a | ○ | 0% | n/a | ● | ○ | ● | ● | ● | ○ | ● | ○ | ● | + |
| Sommer – 2002 [47] | JWD |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| IJZ | ○ | ● | ○ | 0% | n/a | ○ | n/a | n/a | ○ | ○ | ○ | ● | ● | ○ | - |
| Svenningsen – 2013 [48] | JWD |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| IJZ | ● | ● | ● | 0% | n/a | ● | ○ | ○ | ○ | ● | ● | ● | ● | ● | + |
| Takeuchi – 2012 [49] | JWD |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| IJZ | ● | ● | ● | 0% | n/a | ● | n/a | n/a | ● | ○ | ○ | ● | ● | ○ | - |
| **Checklist Cohort** | **Selection bias** | **Performance bias** | **Attrition bias** | **Detection bias** | **Statistical analysis** | **Applicable to patient group** | **Statement** |
| **Author – Year** | **R** | **1.2** | **1.3** | **1.4** | **1.5** | **1.6** | **1.7** | **1.8** | **1.9** | **1.10** | **1.11** | **1.12** | **1.13** | **1.14** |  |  |
| Tsuruta – 2010 [50] | JWD |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| IJZ | n/a | ● | ○ | 0% | n/a | ● | n/a | n/a | ● | ● | n/a | ○ | ● | ○ | + |
| van den Boogaard – 2012 [51] | JWD |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| IJZ | n/a | ● | ● | 0% | n/a | ● | n/a | n/a | ● | ● | ○ | ● | ○ | ● | + |
| van den Boogaard – 2014 [52] | RRvdL | n/a | ● | ● | 0% | n/a | ● | n/a | n/a | ● | ● | n/a | n/a | n/a | ● | ++ |
| BvdL |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| van Rompaey – 2009 [53] | JWD |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| IJZ | ● | ○ | ○ | 0% | n/a | ● | ○ | ○ | ● | ● | ● | ● | ● | ● | + |
| Veiga – 2012 [54] | JWD |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| IJZ | n/a | ● | ○ | 0% | n/a | ● | n/a | n/a | ● | ● | ○ | ● | ● | ● | + |
| Wassenaar – 2015 [55] | RRvdL | n/a | ● | ● | 0% | n/a | ● | ● | ● | ? | ● | n/a | n/a | ● | ● | ++ |
| BvdL |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Whitlock – 2014 [56] | RRvdL | ● | ● | ○ | 6/10% | ● | ● | ● | ● | ● | ● | ? | ○ | ● | ● | ++ |
| BvdL | ● | ● | ○ | 6/10% | ● | ● | ● | ● | ● | ● | ? | ○ | ● | ● | ++ |
| Wolters – 2015 [57] | RRvdL | n/a | ● | ● | 0% | n/a | ● | ? | n/a | ● | ● | ● | ● | ● | ● | ++ |
| BvdL |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Wilson – 2012 [58] | JWD |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| IJZ | n/a | ● | ○ | 0% | n/a | ● | ● | n/a | ● | ● | ○ | ● | ● | ● | - |
| Yoshitaka – 2013 [59] | JWD |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| IJZ | n/a | ● | ○ | 0% | n/a | ● | ● | n/a | ● | ● | ● | ● | ● | ● | + |
| Zaal – 2012 [60] | JWD |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| IJZ | ○ | ● | ○ | 0% | n/a | ● | ○ | ● | ● | ● | n/a | ● | ● | ● | + |
| Zhang – 2014 [61] | RRvdL | n/a | ● | ● | 0% | n/a | ● | ? | ○ | ● | ● | ● | ● | ● | ● | ++ |
| BvdL | n/a | ● | ● | 0% | n/a | ● | ? | ○ | ● | ● | ● | ● | ● | ● | ++ |
| **Checklist Controlled Trials** | **Random Allocation** | **Concealment** | **Blinding** | **Successful randomisation** | **Similar treatment groups** | **Outcomes** | **% dropped out** | **ITT analysis** | **Comparable across sites** | **Applicable to patient group** | **Statement** |
| **Author – Year** | **R** | **1.2** | **1.3** | **1.4** | **1.5** | **1.6** | **1.7** | **1.8** | **1.9** | **1.10** |  |  |
| Girard – 2008 [62] | JWD | ● | ○ | ○ | ● | ● | ● | 0/4% | ● | ? | ● | ++ |
| IJZ | ● | ● | ○ | ● | ● | ● | 1/2% | ● | ? | ● | ++ |
| Jakob – 2012 [63] | JWD | ● | ● | ● | ● | ● | ○ | 1/7% | ● | ? | ● | - |
| IJZ | ● | ● | ● | ● | ○ | ○ | 1/7% | ● | ? | ● | - |
| Pandharipande – 2007 [64] | JWD |  |  |  |  |  |  |  |  |  |  |  |
| IJZ | ● | ● | ● | ● | ● | ● | ? | ● | ? | ● | ++ |
| Riker – 2009 [65] | JWD |  |  |  |  |  |  |  |  |  |  |  |
| IJZ | ● | ● | ● | ● | ● | ● | 3/3% | ● | ● | ● | ++ |
| Ruokonen – 2009 [66] | JWD |  |  |  |  |  |  |  |  |  |  |  |
| IJZ | ● | ? | ● | ● | ● | ● | 25/16% | ○ | ? | ● | + |
| Schweickert – 2009 [67] | JWD |  |  |  |  |  |  |  |  |  |  |  |
| IJZ | ● | ● | ○ | ● | ● | ● | 0/0% | ● | ? | ● | ++ |
| van Rompaey – 2012 [68] | JWD |  |  |  |  |  |  |  |  |  |  |  |
| IJZ | ● | ● | ● | ○ | ○ | ● | ~90% | ● | n/a | ● | + |

R = Reviewer (JWD = J.W. Devlin, IJZ = I.J. Zaal, RRvdL = R.R. van de Leur, BvdL = B. van der Lecq); ● = Yes; ○ = No; ? = can’t say;

n/a = Does not apply; ++ = high quality; + = acceptable; - = unacceptable/reject.

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