

Table S1 Search strategy and results of the included databases

| Database | Strategy | Filters | Date | Results |
|----------------|--|---------------------------|-------------------|---------|
| PubMed | ("Labor, Obstetric" OR "Labor Pain" OR "Trial of Labor" OR "Obstetric Labor, Premature" OR "Labor, Induced" OR "Labor Stage, Third" OR "Labor Stage, Second" OR "Labor Stage, First" OR "Labor Presentation" OR "Labor Onset" OR "Obstetric Labor Complications" OR "Child Labor") AND ("induction of labour" OR "induced labour") AND ("cervical length" OR "cervical wedging" OR "funneling cervical elastography" OR "cervical shear wave elastography" OR "uterocervical angle" OR "cervical volume" OR "Bishop score" OR "Manipal cervical scoring system") | None | To March 04, 2023 | 943 |
| Scopus | ("Labor, Obstetric" OR "Labor Pain" OR "Trial of Labor" OR "Obstetric Labor, Premature" OR "Labor, Induced" OR "Labor Stage, Third" OR "Labor Stage, Second" OR "Labor Stage, First" OR "Labor Presentation" OR "Labor Onset" OR "Obstetric Labor Complications" OR "Child Labor") AND ("induction of labour" OR "induced labour") AND ("cervical length" OR "cervical wedging" OR "funneling cervical elastography" OR "cervical shear wave elastography" OR "uterocervical angle" OR "cervical volume" OR "Bishop score" OR "Manipal cervical scoring system") | Title, Abstract, Keywords | | 1,131 |
| Web of Science | ("Labor, Obstetric" OR "Labor Pain" OR "Trial of Labor" OR "Obstetric Labor, Premature" OR "Labor, Induced" OR "Labor Stage, Third" OR "Labor Stage, Second" OR "Labor Stage, First" OR "Labor Presentation" OR "Labor Onset" OR "Obstetric Labor Complications" OR "Child Labor") AND ("induction of labour" OR "induced labour") AND ("cervical length" OR "cervical wedging" OR "funneling cervical elastography" OR "cervical shear wave elastography" OR "uterocervical angle" OR "cervical volume" OR "Bishop score" OR "Manipal cervical scoring system") | Title | | 541 |

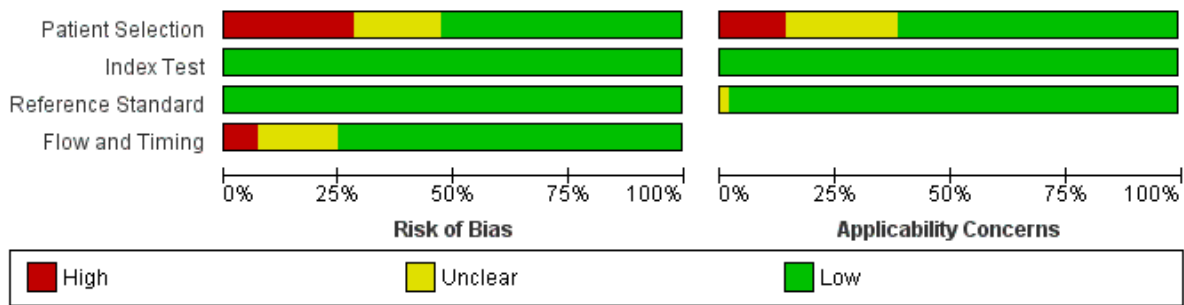


Figure S1 Summary of the percentage of the quality of the included studies for each domain.

| | Risk of Bias | | | | Applicability Concerns | | |
|-----------------------|-------------------|------------|--------------------|-----------------|------------------------|------------|--------------------|
| | Patient Selection | Index Test | Reference Standard | Flow and Timing | Patient Selection | Index Test | Reference Standard |
| Aalvarez-colomo2015 | + | + | + | + | + | + | + |
| Abdullah 2022 | + | + | + | + | + | + | + |
| Al-Adwy 2018 | + | + | + | ? | + | + | + |
| Alanwar 2021 | + | + | + | + | + | + | + |
| Ali 2018 | + | + | + | + | + | + | + |
| Aracic 2016 | + | + | + | + | + | + | + |
| Athulathmudali 2021 | + | + | + | + | + | + | + |
| Bastani 2011 | + | + | + | + | ? | + | ? |
| Brik 2016 | + | + | + | + | + | + | + |
| Caliskan 2006 | ? | + | + | + | + | + | + |
| Cheung 2010 | + | + | + | + | + | + | + |
| Cromi 2007 | + | + | + | + | + | + | + |
| Cubal 2013 | + | + | + | + | + | + | + |
| Daskalakis 2006 | + | + | + | + | + | + | + |
| Öül 2020 | + | + | + | + | ? | + | + |
| Dogl 2010 | + | + | + | + | + | + | + |
| Etgeba 2008 | + | + | + | + | + | + | + |
| Elghorori 2006b | + | + | + | + | + | + | + |
| El-Maghraby 2021 | ? | + | + | ? | ? | + | + |
| Funghi 2018 | + | + | + | ? | + | + | + |
| GABRIEL 2002 | + | + | + | + | + | + | + |
| Gillor2016 | ? | + | + | + | ? | + | + |
| GOMEZ LAENCINA 2007 | ? | + | + | + | + | + | + |
| GOMEZ LAENCINA 2012 | + | + | + | + | + | + | + |
| Gonen 1998 | + | + | + | + | + | + | + |
| Hwang 2013 | + | + | + | + | + | + | + |
| Kang 2010 | + | + | + | + | + | + | + |
| Kant 2016 | + | + | + | ? | ? | + | + |
| KEEPANASSERIL 2007 | + | + | + | ? | + | + | + |
| Khandelwal 2018 | + | + | + | ? | + | + | + |
| khazardoost 2016 | + | + | + | + | + | + | + |
| Kwon 2021 | + | + | + | + | + | + | + |
| Li 2003 | + | + | + | ? | ? | + | + |
| Meijer-Hoogeveen 2009 | + | + | + | + | + | + | + |
| El Mekkawi 2019 | ? | + | + | + | ? | + | + |
| pandis 2001 | + | + | + | + | + | + | + |
| Park 2007 | + | + | + | + | ? | + | + |
| Park 2012 | ? | + | + | + | ? | + | + |
| Paterson-Brown 1991 | + | + | + | + | + | + | + |
| Pitarello 2012 | + | + | + | + | + | + | + |
| Rane 2003 | ? | + | + | + | ? | + | + |
| Rathore 2020 | + | + | + | + | + | + | + |
| Raynela 2018 | ? | + | + | ? | ? | + | + |
| Reis 2003 | + | + | + | + | + | + | + |
| Roman 2004 | ? | + | + | + | ? | + | + |
| Rozenberg 2005 | + | + | + | + | + | + | + |
| Tan 2006 | + | + | + | + | + | + | + |
| Tan 2007 | + | + | + | + | + | + | + |
| Tanir 2008 | + | + | + | ? | + | + | + |
| Turkylmaz 2020 | + | + | + | + | + | + | + |
| Uyar 2009 | + | + | + | + | + | + | + |
| Uzun 2013 | ? | + | + | + | ? | + | + |
| vallikkannu 2016 | + | + | + | + | + | + | + |
| Ware 2000 | ? | + | + | + | + | + | + |
| Yang 2004 | + | + | + | + | + | + | + |
| Yang 2021 | + | + | + | + | + | + | + |
| Zhou 2021 | + | + | + | ? | ? | + | + |

● High ? Unclear ● Low

Figure S2 Summary of the quality assessment of the included studies for each study individually.

Table S2 Outcome summary table for each study

| Study ID | Cervical length for IOL | Cervical length for failed IOL | Posterior cervical angle for successful IOL | Posterior cervical angle for failed IOL | Cervical length shortening for successful IOL | Cervical length shortening for failed IOL |
|------------------|-------------------------|--------------------------------|---|---|---|---|
| Alanwar | | Yes | | | | |
| Abdullah | Yes | | | | | |
| Al-Adwy | Yes | | Yes | | | |
| Alvarez-Colomo | | Yes | | | | |
| Aracic | | Yes | | | | |
| Athulathmudali | Yes | | | | | |
| Bastani | | Yes | | Yes | | |
| Brik | | Yes | | | | |
| Cheung | Yes | | | | | |
| Çaliskan | | Yes | | | | |
| Cromi | Yes | | | | | |
| Cubal | | Yes | | | | |
| Daskalakis | Yes | | | | | |
| Gül | | Yes | | Yes | | Yes |
| Dewandeleer | | | | | | |
| Dögl | Yes | | | | | |
| Eggebo | Yes | | Yes | | | |
| Al-Maghraby | Yes | | | | | |
| Funghi | Yes | | | | | |
| Gabriel | | Yes | | | | |
| Gómez Laencina | Yes | Yes | | | | |
| Gillor | | | Yes | | | |
| Gonen | Yes | | | | | Yes |
| Hwang | Yes | | | | | |
| Kang | Yes | | | | Yes | |
| Kant | Yes | | Yes | | | |
| Kawn | | | | | Yes | |
| Raynelda | Yes | | | | | |
| Keepanasseril | Yes | | Yes | | | |
| Khazardoost | Yes | | | | | |
| Kwon | Yes | | | | | |
| Li | Yes | | | | | |
| Meijer-Hoogeveen | Yes | | | | | Yes |
| El Mekkawi | Yes | | | | | |
| Pandis | Yes | | | | | |
| Paterson-Brown | | Yes | Yes | | | |
| Pitarello | Yes | | | | | |
| Ran | | Yes | | | | |
| Rozenberg | | Yes | | | | |
| Roman | | Yes | | | | Yes |
| Rathore | Yes | | | | | |
| Park | | Yes | | | | Yes |
| Reis | Yes | | | | | Yes |
| Tan 2006 | | Yes | | | | |
| Tan 2007 | | Yes | | | | |
| Tanir | Yes | | | | | |
| Türkyilmaz | Yes | | | | | |
| Uyar | Yes | | | | | |
| Uzun | | Yes | | Yes | | |
| Vallikkannu | Yes | | | | | |
| Ware | Yes | | | | | |
| Yang | Yes | | Yes | | | Yes |
| Zhou | Yes | | | | | |

IOL, induction of labor.

Table S3 The cutoff values for each outcome reported by the individual studies

| Study ID | Prediction | Cut-off value or mean value for cervical length | Cut-off value or mean value for posterior cervical angle | Cut-off value or mean value for posterior cervical angle for fetal head-perineum distance |
|----------------------|--|---|--|---|
| Abdullah 2022 | Successful induction of labour within 24 hours | ≤27 mm | NR | NR |
| Al-Adwy 2018 | Successful induction of labour within 24 hours | <34 mm | >99.5° | NR |
| Alanwar 2021 | Prediction of cesarean delivery within 24 hours | >23 mm | NR | NR |
| Ali 2019 | Successful induction of labour within 24 hours | <3 cm | NR | <5.5 cm |
| Alvarez-Colomo 2016 | Prediction of cesarean delivery within 60 hours | >25 mm | NR | >0.45 mm |
| Aracic 2017 | Prediction of cesarean delivery within 12 hours | 34 mm | NR | NR |
| Athulathmudali 2021 | Successful induction of labour within 24 hours | <37 mm | NR | NR |
| Bastani 2011 | Prediction of cesarean delivery | >19 | ≥117° | NR |
| Brik 2017 | Prediction of cesarean delivery within 12 hours | >28 mm | NR | NR |
| Çalışkan 2006 | Prediction of cesarean delivery within 24 hours | 30 mm | NR | NR |
| Cheung 2010 | Successful induction of labour within 24 hours | ≤2.045 cm | NR | NR |
| Cromi 2007 | Successful induction of labour within 24 hours | ≤33 mm | NR | NR |
| Cubal 2013 | Prediction of cesarean delivery within 24 hours | 30 mm | NR | NR |
| Daskalakis 2006 | Successful induction of labour within 24 hours | ≤27 mm | NR | NR |
| Gül 2020 | Prediction of prolonged latent phase more than 24 hours (failure of induction) | 29.5 | 98.5° | NR |
| Dögl 2011 | Successful induction of labour within 72 hours | 26 mm NR | NR | NR |
| | Successful induction of labour within 24 hours | | NR | |
| Eggebo 2008 | Successful induction of labour within 24 hours | ≤25 mm | >90° | <40 mm |
| Elghorori 2006 | Successful induction of labour within 24 hours | ≤34 mm | NR | NR |
| El-Maghraby 2021 | Successful induction of labour within 24 hours | ≤27 mm | NR | NR |
| | | ≤29 mm | NR | NR |
| Funghi 2018 | Successful induction of labour | ≤24 mm | NR | NR |
| Gabriel 2002 | Prediction of cesarean delivery | 26 mm | NR | NR |
| Gillor 2017 | Successful induction of labour | NR | >92° | NR |
| Gómez Laencina 2007 | Successful induction of labour within 12 hours | 24 mm | NR | NR |
| Gómez-Laencina 2012 | Prediction of cesarean delivery within 12 hours | 25.2 mm | NR | NR |
| Gonen 1998 | Successful induction of labour | ≤27 mm | NR | NR |
| Hwang 2013 | Successful induction of labour within 9 hours | <20 mm | NR | NR |
| | Successful induction of labour within 24 hours | <20 mm | NR | NR |
| Kang 2010 | Successful induction of labour | 24 mm | NR | NR |
| Kant 2016 | Successful induction of labour | 30 mm | 100° | NR |
| Raynelda 2018 | Successful induction of labour | 29.8 mm | NR | NR |
| Keepanasseril 2007 | Successful induction of labour | 30 mm | 100° | NR |
| Khandelwal 2018 | Induction of labor active phase within 6 hours | 25 mm | NR | NR |
| | Induction of labor active phase within 6 hours | 30 mm | NR | NR |
| Khazardoost 2016 | Successful induction of labour | 12.5 mm | NR | 12 mm |
| Kwon 2021 | Successful induction of labour | 29 mm | NR | NR |
| Laencina 2007 | Successful induction of labour | 24 mm | NR | NR |
| Li 2023 | Successful induction of labour | 34 mm | NR | NR |
| Meijer-Hoogveen 2009 | Successful induction of labour | NR | NR | NR |
| El Mekkawi 2019 | Successful induction of labour | 28 mm | NR | NR |
| Pandis 2001 | Successful induction of labour within 24 hours | 28 mm | NR | NR |
| Park 2007 | Failed induction of Labor | 28 mm | NR | NR |
| Park 2012 | Risk of cesarean section | 20 mm | NR | NR |
| Paterson-Brown 1991 | Predicting cesarean section | NR | 70° | NR |

Table S3 (continued)

Table S3 (continued)

| Study ID | Prediction | Cut-off value or mean value for cervical length | Cut-off value or mean value for posterior cervical angle | Cut-off value or mean value for posterior cervical angle for fetal head-perineum distance |
|------------------|--|---|--|---|
| Pitarello 2013 | Vaginal delivery overall | 26.5 mm | NR | NR |
| | Vaginal delivery up to 24 hours | 26.5 mm | NR | NR |
| Rane 2003 | Predicting cesarean section | NR | NR | NR |
| Rathore 2021 | Successful induction of labour | 35 mm | NR | NR |
| Reis 2003 | Successful induction of labour within 24 hours | 20 mm | NR | NR |
| Roman 2004 | Predicting failure of induction | 28 mm | NR | NR |
| Rozenberg 2005 | Predicting cesarean section | NR | NR | NR |
| Tan 2007 | Predicting cesarean section | 20 mm | NR | NR |
| Tan 2006 | Predicting cesarean section | 20 mm | NR | NR |
| Tanir 2008 | Successful induction of labour | 25 mm | NR | NR |
| Türkyilmaz 2020 | Successful induction of labour | 30 mm | NR | NR |
| Uyar 2009 | Successful induction of labour | 19 mm | NR | NR |
| Uzun 2013 | Predicting cesarean section | 27 mm | 98° | NR |
| Vallikkannu 2017 | Vaginal delivery after IOL | 29 mm | NR | NR |
| | Vaginal delivery within 24 hours of IOL | 29 mm | NR | NR |
| Ware 2000 | Predictor of vaginal delivery | 30 mm | NR | NR |
| Yang 2004 | Successful induction of labour | 30 mm | NR | NR |
| Yang 2021 | | NR | NR | NR |
| Zhou 2021 | Successful induction of labour | 27.7 mm | NR | NR |

NR, not reported; IOL, induction of labor.