

# High-intensity focused ultrasound (HIFU) ablation versus surgical interventions for the treatment of symptomatic uterine fibroids: a systematic review and meta-analysis

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October 19, 2020

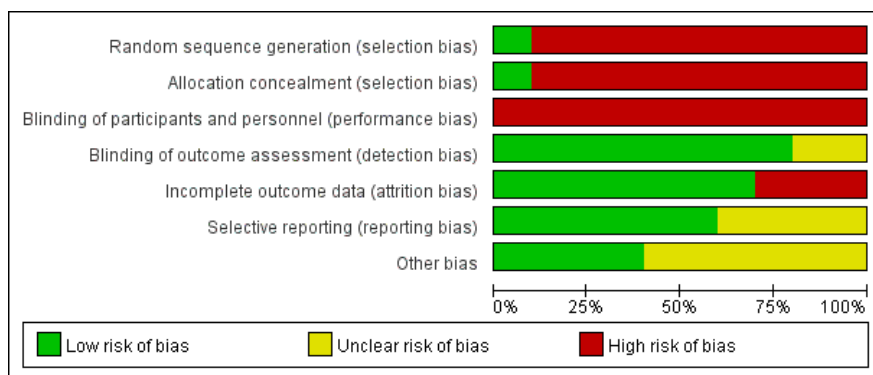
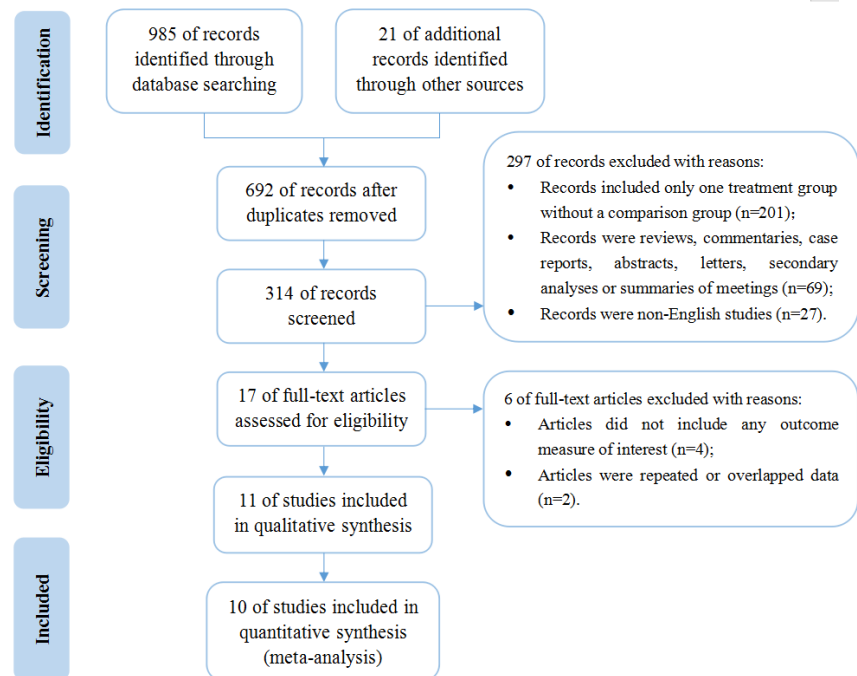
## Abstract

**Objective** The purpose of this meta-analysis was to compare the effectiveness and safety of HIFU with surgical interventions for the treatment of symptomatic uterine fibroids in women according to the studies available in current literature. **Main results** A total of 10 studies involving 4450 women were included in our meta-analysis. Compared with surgery group, the reduction of uterine fibroid symptom (UFS) scores at 6- and 12-month follow-up were higher in HIFU group, with the overall MD -4.16 (95% CI, -7.39 to -0.94, P=0.01) and -2.44 (95% CI, -3.67 to -1.20, P=0.0001), respectively. The increase of quality-of-life (QoL) scores at 6- and 12-month follow-up were also higher in HIFU group, with the overall MD 2.13 (95% CI, 0.86 to 3.14, P=0.001) and 2.34 (95% CI, 0.82 to 3.85, P=0.003), respectively. Both of the duration of hospital stay and the time to return to work was significantly shorter in HIFU group, with the overall MD -3.41 (95% CI, -5.11 to -1.70, P<0.0001) and -11.61 (95% CI, -19.73 to -3.50, P=0.005), respectively. The incidence of significant complications was significantly lower in HIFU group, with the overall RR 0.33 (95% CI, 0.13 to 0.81, P=0.02). The difference of incidence of adverse events, effective rate, symptom recurrence rate, re-intervention rate and pregnancy rate between HIFU and surgery were not statistically significant. **Conclusion** Compared with surgical interventions, HIFU ablation therapy leads to more significant alleviation of symptoms and improvement of QoL, quicker postoperative recovery and fewer significant complications.

## Hosted file

HIFU20201017.pdf available at <https://authorea.com/users/368380/articles/487524-high-intensity-focused-ultrasound-hifu-ablation-versus-surgical-interventions-for-the-treatment-of-symptomatic-uterine-fibroids-a-systematic-review-and-meta-analysis>

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#1 Leiomyoma [Mesh]
#2 *myomas [Title/Abstract] OR (fibroid*[Title/Abstract]
#3 High-Intensity Focused Ultrasound Ablation [Mesh]
#4 focused ultrasound [Title/Abstract] OR HIFU [Title/Abstract] OR MRgFUS [Title/Abstract]
#5 surgery [Title/Abstract] OR hysterectomy [Title/Abstract] OR myomectomy [Title/Abstract]
#6 #1 OR #2
#7 #3 OR #4
#8 #6 AND #7 AND #5
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Study	Random sequence generation (selection bias)	Allocation concealment (selection bias)	Blinding of participants and personnel (performance bias)	Blinding of outcome assessment (detection bias)	Incomplete outcome data (attrition bias)	Selective reporting (reporting bias)	Other bias
Chen 2017	High	High	High	Low	Low	Low	Low
Hu 2020	High	High	High	Low	Low	Low	Low
Liu 2017	High	High	High	Low	Low	Low	Low
Liu 2020	High	High	High	Low	Low	Low	Low
Sasson 2018	High	High	High	Low	Low	Low	Low
Taran 2009	High	High	High	Low	Low	Low	Low
Wang 2013	High	High	High	Low	Low	Low	Low
Wang 2014	High	High	High	Low	Low	Low	Low
Wang 2020	High	High	High	Low	Low	Low	Low
Wu 2020	High	High	High	Low	Low	Low	Low

