



Considerations for Perioperative Care Guidelines for Transgender Patients on Hormone Therapy

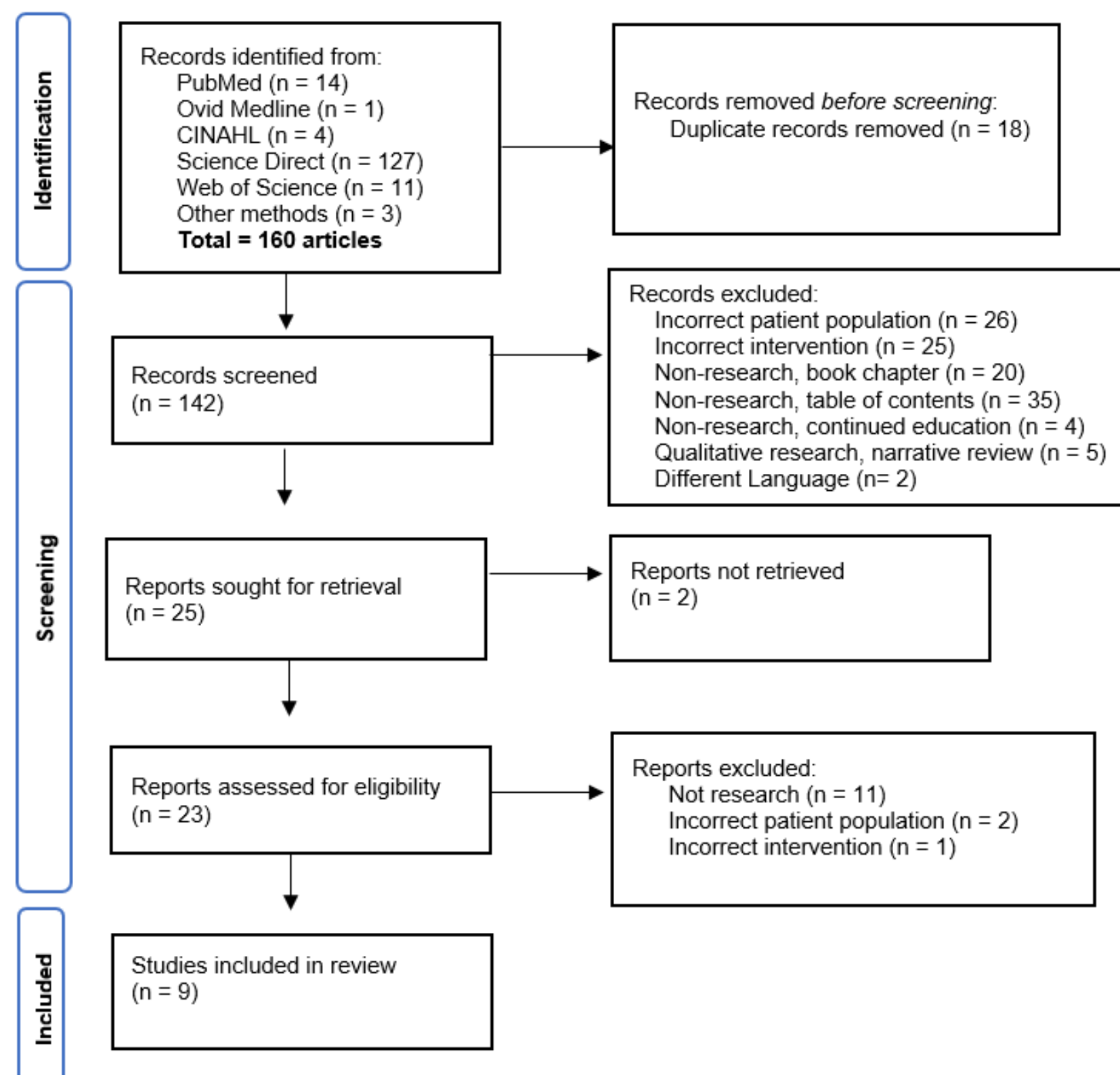


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Introduction

- As of 2020, approximately **1.6 million people in U.S identified as transgender**.
- There are **conflicting guidelines** regarding the **continuation of gender-affirming hormone therapy (GAHT)** for transgender patients undergoing non-gender affirming surgery.
- This literature review aims to **determine** whether the **continuation of GAHT** during the perioperative period **increases the risk for complications** for transgender patients undergoing surgery.

Methods for Search



- Key words:** “transgender”, “hormone therapy”, and “perioperative complication” with the Boolean operator “AND” between key words.
- Articles published between 2015 and 2022 were included.

Results

Study	Type	Results
Boskey (2019)	Systematic Review n = 18 articles	Preoperative testosterone does not affect mortality or cardiac outcome Antiandrogens delay wound healing, ↑ infection, and fat necrosis. Stop before surgery. Stop/restarting testosterone could ↑ risk of thrombosis
Haveles (2020)	Systematic Review n = 7 articles	Surgeries > 5hrs increased VTE risk if on HT It cannot be determined if continuing HT through perioperative period increased VTE risk
Mishra, Nath, Kaushal, Kain (2021)	Narrative Systematic Review n = 29 articles	Side effects of GAHT include: Dyslipidemia, VTE, PE, DM, HTN, stroke, liver dysfunction, PONV, migraine, postoperative delirium, altered wound healing Stop GAHT two to four weeks prior to surgery
Nolan IT, et al. (2021)	Cohort Study n = 178 patients	Rates of wound-healing, hematomas, wound breakdown, and skin graft loss, and VTE complications between the 2 groups were not statistically significant
Robinson IS, et al (2022)	Retrospective Study n = 490 patients	No difference in rates of VTE among all groups No difference in hematoma or seroma requiring post-op surgical intervention between both groups
Saito N, et al (2021)	Correlational / Experimental Study n = 74 patients	Testosterone noted to increase risk for lethal ventricular arrhythmias Estrogen ↑ risk for long QT interval syndrome in transgender females taking estrogen
Shah SB, et al (2019)	Narrative Systematic Review n = 32 articles	Estrogen therapy showed 20x increased risk for thrombosis in first 1 year of therapy in smokers Higher risk for migraines and PONV Testosterone ↑ risk of CVA/strokes d/t potential raise in Hgb/Hct up to 48%
Wu SS, et al (2022)	Retrospective Study n = 236 patients	No VTE complications found in either group. No evidence to support cessation of testosterone for “top surgeries” Estrogen cessation found to be more important to prevent VTE d/t longer operative times and bedrest for “bottom surgeries” in transgender females
Zucker R, et al (2021)	Meta-Analysis n = 1170 RCT	Oral contraceptives ↑ risk of VTE when ethinyl estradiol content is > 50mcg/pill, vs estrogen alone Transdermal estrogen has less thrombogenic events associated with it. VTE risk may ↑ with higher dosage, route, duration of regimen No data to date to demonstrate benefit of withholding HT

Analysis of Evidence

- In five of the nine articles, **GAHT** was shown to **increase** the perioperative risk for **VTE, stroke, cardiovascular events, delayed wound healing, infection, PONV, and migraines** in transgender patients.
- Six articles suggested **continuation of GAHT prior to surgery** despite these risks since GAHT’s **benefits outweigh the small risks** for these complications.

Recommendations for Practice

- Anesthesia providers should **consider continuing GAHT perioperatively on a case-by-case basis** with a team approach that includes the patient and other providers.
- Providers should **conduct a thorough pre-operative assessment, understand the risk factors** associated with each complication, and **implement an anesthesia plan that includes prophylactic management** for undesirable patient outcomes.
- Further research in this area is imperative to **clarify the benefits versus the risks** of continuing GAHT during the perioperative period and will **help develop guidelines** for anesthesia clinicians to provide safe care to transgender patients undergoing surgery.

References

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