Working together to improve health care quality, outcomes, and affordability in Washington State.

Hysterectomy

2017
Dr. Robert Bree Collaborative Background

The Dr. Robert Bree Collaborative was established in 2011 by Washington State House Bill 1311 “...to provide a mechanism through which public and private health care stakeholders can work together to improve quality, health outcomes, and cost effectiveness of care in Washington State.” The Bree Collaborative was modeled after the Washington State Advanced Imaging Management (AIM) project and named in memory of Dr. Robert Bree, a pioneer in the imaging field and a key member of the AIM project.

Members are appointed by the Washington State Governor and include public health care purchasers for Washington State, private health care purchasers (employers and union trusts), health plans, physicians and other health care providers, hospitals, and quality improvement organizations. The Bree Collaborative is charged with identifying up to three health care services annually that have substantial variation in practice patterns, high utilization trends in Washington State, or patient safety issues. For each health care service, the Bree Collaborative identifies and recommends best-practice evidence-based approaches that build upon existing efforts and quality improvement activities aimed at decreasing variation. In the bill, the legislature does not authorize agreements among competing health care providers or health carriers as to the price or specific level of reimbursement for health care services. Furthermore, it is not the intent of the legislature to mandate payment or coverage decisions by private health care purchasers or carriers.

See Appendix A for a list of current Bree Collaborative members.

Recommendations are sent to the Washington State Health Care Authority for review and approval. The Health Care Authority (HCA) oversees Washington State’s largest health care purchasers, Medicaid and the Public Employees Benefits Board Program, as well as other programs. The HCA uses the recommendations to guide state purchasing for these programs. The Bree Collaborative also strives to develop recommendations to improve patient health, health care service quality, and the affordability of health care for the private sector but does not have the authority to mandate implementation of recommendations.

For more information about the Bree Collaborative, please visit: www.breecollaborative.org.

Hysterectomy is a common surgical procedure for women. However, there is a high degree of variation in rates of the procedure, indicating a lack of appropriateness standards and potential overuse. The Bree Collaborative elected to address this topic and convened a workgroup to develop recommendations that met from March 2017 – January 2018.

See Appendix B for the Hysterectomy workgroup charter and a list of members.

See Appendix C for results of the Guideline and Systematic Review Search Results.
Problem Statement

Hysterectomy is one of the most frequent surgical procedures in the United States with approximately 600,000 performed annually.\(^1\) Hysterectomy rates are highly variable by hospital and by region, being one of the first published surgical procedures with rates differing primarily based on location, indicating overuse.\(^2\) Cost of hysterectomy also varies by region, from an average of $9,661 (range $6,243 - $15,335) in the Mid-Atlantic to $22,534 (range $15,380 - $33,797) in the Pacific region.\(^3\) Rates are also shown to be highly variable based on location in Washington State through Washington Health Alliance analysis.\(^4\)

The most common indication for hysterectomy is uterine fibroids with 150,000 – 200,000 cases annually. Other indications include abnormal menstrual bleeding, gynecologic cancer, endometriosis, chronic pelvic pain, and uterine prolapse.\(^5,6\) Types of hysterectomy include:\(^7\)

- Total – removal of entire uterus including the cervix
- Supracervical (subtotal or partial) – removal of the upper part of the uterus not including the cervix (must be done laparoscopically or abdominally)
- Radical – removal of the entire uterus including the cervix and structures around the uterus (e.g., ovaries, fallopian tubes), typically in cases involving cancer

However the procedure has a risk of complications including bladder or bowel injury, bleeding, urinary incontinence, wound infection, blood clots, nerve and tissue damage, among others.\(^5,7\) Satisfaction rates tend to be comparable to medical management, with higher patient-reported sexual functioning after less invasive procedures (i.e., uterine artery embolization compared to hysterectomy after 2 years).\(^8,9\) Use of medical management or alternatives to hysterectomy that spare the uterus for abnormal uterine bleeding, uterine fibroids, endometriosis, or pelvic pain are underutilized, especially for women over 40.\(^10\)

Disparities

Racial and ethnic differences in the rate, route, and probability of complications are also commonly found, partially due to differences in disease burden from fibroids and endometriosis.\(^11\) Black women are significantly more likely to undergo hysterectomy for fibroids, potentially due to larger fibroid size and greater numbers, however black women are also more likely to experience complications as compared to white non-Hispanic women.\(^12\) White women are also more likely to undergo minimally invasive hysterectomy (i.e., vaginal, laparoscopic, or robotic-assisted procedures) vs. laparotomy or open surgery as compared to Hispanic and black patients.\(^8\)
Recommendation Development
The workgroup's goal is that women undergo hysterectomies when appropriate with the understanding that some individual variation is appropriate based on clinical opinion. Workgroup members developed the recommendations to encourage clinicians to go through the thought process of what to do prior to a hysterectomy to reduce unnecessary or inappropriate hysterectomies. The workgroup developed three focus areas:

1. Assessment and medical management, by indication
2. Uterine sparing procedures, by indication
3. Surgical procedure including follow-up care, emphasizing the enhanced recovery after surgery protocol and use of a minimally invasive approach

The workgroup reviewed clinical practice guidelines, available evidence, and relied on clinical expertise where evidence was lacking. See Appendix C and the references for a complete list of available guidelines and systematic reviews.

Inclusions
- Uterine leiomyoma (Fibroids)
- Abnormal menstrual bleeding
- Endometriosis
- Uterine prolapse
- Adenomyosis
- Pain

Exclusions
- Pregnancy
- Cancer
- Emergency situations (e.g., due to trauma, childbirth)
- Gender reassignment surgery
- Oophorectomy
Assessment and Medical Management

1. Full gynecologic workup
   a. Confirmation of lack of viable pregnancy
   b. Discussion and documentation of symptoms (e.g., pain, bleeding).
   c. Discuss comorbidities
   d. Endocrine assessment (e.g., thyroid)
   e. Coagulation testing
   f. Assessments by indication in Table 1.
   g. Additional assessments, as indicated

2. Engage the patient. Shared decision making using a patient decision aid approved by the Washington State Health Care Authority, if available. If not available, use a patient decision aid that includes a conversation about the patient’s goals of care including desire for future pregnancy and gains patient understanding of the risks and benefits of medical management and uterine sparing procedures for the specified indication.13,14

3. Trial of medical management unless symptoms are severe. Use checklist by indication (e.g., uterine leiomyoma or fibroids, abnormal menstrual bleeding, endometriosis, uterine prolapse, adenomyosis, and/or pain) as defined in Table 1.

4. Document use of medical management, severe symptoms, or patient preference and selection to move forward with uterine sparing procedures.

Table 1: Assessment and Medical Management by Indication

<table>
<thead>
<tr>
<th>Indication</th>
<th>Assessment</th>
<th>Medical Management</th>
</tr>
</thead>
<tbody>
<tr>
<td>Uterine Leiomyoma</td>
<td>Patients will present with variable clinical manifestations as symptoms</td>
<td>Treatment will be based on size, number, and location</td>
</tr>
<tr>
<td>(Fibroids)15,16</td>
<td>associated with fibroid(s) relate to location, size, and number</td>
<td>• Trial of nonsteroidal anti-inflammatory drug (NSAID), if not contraindicated</td>
</tr>
<tr>
<td></td>
<td>• Confirmation of absence of an active infection</td>
<td>• Trial of hormonal management, if not contraindicated</td>
</tr>
<tr>
<td></td>
<td>• Confirmation of diagnosis through cross-sectional imaging (preferably ultrasound)</td>
<td>• Gonadotropin-releasing hormone (GnRH) agonist, unless contraindicated. More than six months without hormonal add-back therapy is not recommended.</td>
</tr>
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<td></td>
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<td>}</td>
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<tr>
<td>Indication</td>
<td>Assessment</td>
<td>Medical Management</td>
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<td>-------------------------</td>
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</tbody>
</table>
| Abnormal Menstrual Bleeding\(^\text{17}\) | • Assessment for signs of hypovolemia and anemia  
• Assessment for hemodynamic instability  
• Classification of cause as structural or nonstructural using PALM-COEIN system (Polyp, Adenomyosis, Leiomyoma, Malignancy and hyperplasia – Coagulopathy, Ovulatory dysfunction, Endometrial, Iatrogenic, Not yet classified)  
• Diagnostic imaging testing if indicated (i.e., saline infusion sonohysterography (SIS), transvaginal ultrasonography, Hysteroscopy)  
• Additional diagnostic labs when appropriate (i.e., HCG, CBC, thyroid function and prolactin, liver function, coagulation studies, hormone assays; pap smear, endometrial sampling) | Structural  
• Surgical treatment precludes any hormonal management  
Non-Structural  
• Ovulatory dysfunction:  
  o Trial of hormonal (combined hormonal contraceptive and progestin only therapies) management, unless contraindicated  
  o Pharmacotherapy (e.g., NSAIDs, tranexamic acid)  
• Thyroid dysfunction: adjustment of thyroid medication  
• Coagulopathy: combined hormonal contraceptive  
• Hyperprolactinemia: Bromocriptine and Cabergoline  
• Endometrial Hyperplasia (nonatypical): oral progestins, levonorgestrel intrauterine device |
| Endometriosis\(^\text{18,19}\) | \textit{Variable clinical manifestations are possible that can be symptomatic or asymptomatic. Refer to the abnormal uterine bleeding or pain assessment, if relevant.}  
• Confirm endometriosis by histology on biopsy, laparoscopic visualization, or identification of endometrioma on transvaginal ultrasound |  
• Trial of NSAID, if not contraindicated  
• Trial of hormonal management, if not contraindicated  
• GnRH agonist  
• Aromatase inhibitor (AI)  
• Trial of Danazol |
| Uterine Prolapse\(^\text{20,21,22}\) | • Assess urinary and fecal incontinence and/or retention  
• Assess for multi-compartment pelvic wall defects |  
• Consider therapeutic alternatives including pelvic floor exercises and pessaries.  
• Advice on risks of long-term pessary use and do not use if there is evidence of an active infection, severe ulceration, silicone or latex allergy, or if the patient is unlikely to follow-up. |
<table>
<thead>
<tr>
<th><strong>Adenomyosis</strong>&lt;sup&gt;24&lt;/sup&gt;</th>
<th><strong>Pelvic Pain</strong>&lt;sup&gt;26&lt;/sup&gt;</th>
</tr>
</thead>
</table>
| *There is a strong relationship between adenomyosis and endometriosis or fibroids.*<sup>23</sup>  
- Ultrasound  
- Confirm with MRI, if diagnosis unclear |  
- Use a multidisciplinary approach starting with through investigation with gynecologic examination, pelvic ultrasound, then evaluation of other nongynecological sources (e.g., urinary, gastrointestinal, musculoskeletal, mental)  
- Evaluation of other sources (e.g., urinary, gastrointestinal, musculoskeletal)  
- Investigations (e.g., diagnostic laparoscopy, endoscopy, imaging) have not identified specific non-gynecological etiology of symptoms (e.g., interstitial cystitis, inflammatory bowel disease). |
| • Trial of NSAID, if not contraindicated  
• Trial of hormonal management, if not contraindicated. Hormonal manipulation with progestins (including the levonorgestrel-releasing intrauterine device [LNg IUD], gonadotropin-releasing hormone analogs, or aromatase inhibitors Danazol -containing intrauterine device. | • Trial of (if not contraindicated):  
  o Non-steroidal anti-inflammatory drugs  
  o Oral contraceptives  
  o GnRH  
  o Aromatase inhibitors  
  o Danazol  
  o Antidepressants  
• Pelvic floor rehabilitation |
Uterine Sparing Procedures

1. Discuss uterine sparing procedures with the patient. Use checklist by indication as defined in Table 2.

2. Document use of uterine sparing procedures, severe symptoms, or patient preference and selection to move forward with hysterectomy. Discuss the hysterectomy approach with the patient including which route will maximize benefits and minimize risks based on the patient’s individual clinical situation. 24

Table 2: Uterine Sparing Procedures by Indication

<table>
<thead>
<tr>
<th>Indication</th>
<th>Uterine Sparing Procedure</th>
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</table>
| **Uterine Leiomyoma (Fibroids)15,16** | • Discuss possible recurrence of leiomyomas with the patient and whether alternative treatment would be appropriate based on the severity of the condition or risk of recurrence.  
  • Uterine artery embolization  
  • For submucosal leiomyomas, the selection of endometrial ablation versus hysteroscopic myomectomy depends on size, number, and intracavitary involvement  
  • Myomectomy (laparoscopic or open), if amenable based on clinical opinion. Type (i.e., abdominal, laparoscopic, hysteroscopic) should be made at the surgeon’s discretion based on patient-specific factors (e.g., size). |
| **Abnormal Menstrual Bleeding17**   | Structural  
  • Endometrial ablation (not a first-line therapy) resectoscopic (hysteroscopic directed) technique and nonhysteroscopic (nonresectoscopic) technique  
  • Hysteroscopic endometrial polypectomy  
  • Hysteroscopic myomectomy  
  • Hysterectomy for atypical complex endometrial hyperplasia |
| **Endometriosis18,19**              | Non-Structural  
  Refractory or contraindication to medical management for nonstructural abnormal menstrual bleeding causes: Surgical options  
  • Endometrial ablation: Resectoscopic (hysteroscopic directed) technique and nonhysteroscopic (nonresectoscopic) technique |
<p>|                                     | • Laparoscopic/open surgery- excision or ablation of endometriotic lesions, lysis of adhesions, removal of endometrioma. |</p>
<table>
<thead>
<tr>
<th>Indication</th>
<th>Uterine Sparing Procedure</th>
</tr>
</thead>
</table>
| **Uterine Prolapse** | • Apical (uterine) vault prolapse suspension: Abdominal or robotic-assisted laparoscopic sacral cervicopexy or sacral hysteropexy  
|                     | • Repair of cystocele, rectocele/enterocele                                               |
|                     | • Colpocleisis                                                                             |
|                     | • Alternative treatment not appropriate for severity of patient's condition (e.g., severe prolapse). |
| **Adenomyosis**     | • Uterine artery embolization.                                                             |
|                     | • Laparoscopic adenomyomectomy, laparoscopic myometrial electrocoagulation.                |
| **Pelvic Pain**     | See other indications.                                                                     |
Surgical Procedure

We recommend following the enhanced recovery after surgery (ERAS) protocol and using a minimally invasive approach, when appropriate. The ERAS protocol fits well with gynecological surgery and has been associated with reduced opioid use, length of stay, cost; stable readmission and incidence of side effects, and improved patient satisfaction. We also recommend using a minimally invasive approach, if not contraindicated. Multiple studies have shown a vaginal approach to have fewer complications (e.g., infection, urinary tract injuries) and a shorter hospital stay. If a vaginal approach is not possible, a laparoscopic approach is recommended over abdominal surgery. Outcomes of robotic surgery are similar to that of laparoscopic hysterectomy however with higher cost and some studies show a longer operating room time. For most cases laparoscopic surgery is preferred over robotic surgery.

1. Prior to surgery
   a. Minimize preoperative fasting
   b. Avoid bowel preparation
   c. Preemptive analgesia
   d. Prophylactic antibiotics. Administer appropriate peri-operative course of antibiotics according to guidelines set forth in the Surgical Care Improvement Project (SCIP): SCIP-Inf-1b, 2b, 3b; CMS Measure 1, 2, 3.
   e. Use appropriate skin prep by patient prior to surgery

2. Limit use of nasogastric tubes and drains

3. Minimize risk of deep venous thrombosis and embolism according to guidelines set forth in the SCIP VTE-2, CMS Measure 4 (e.g., thromboprophylaxis)

4. Optimize pain management and anesthesia with multimodal analgesia to minimize opioid use. Prescribe according to Washington State Agency Medical Director’s Group Opioid Prescribing Guidelines, 2015 Interagency Guidelines or more recent if available.

5. Use a minimally invasive approach, if not contraindicated.
   a. Using the decision tree from Schmitt et al.

6. Consider need to reduce the risk of post-hysterectomy prolapse

7. Removal of urinary catheters within six hours of surgery

8. Enhance gastrointestinal motility with early nutrition


10. Discharge planning including patient education and care plan
    a. Signs or symptoms that warrant follow up with provider
    b. Guidelines for emergency care and alternatives to emergency care
    c. Contact information for surgeon and primary care provider

11. Schedule follow-up visits as appropriate.
Additional Stakeholder Actions and Quality Improvement Strategies

**Patients**
- Discuss any concerns or symptoms with your provider and care team.
- Review the American Congress of Obstetricians and Gynecologists (ACOG) frequently asked questions about hysterectomy here: [www.acog.org/Patients/FAQs/Hysterectomy](http://www.acog.org/Patients/FAQs/Hysterectomy). ACOG also has information for patients by specific indication, such as for Pelvic Organ Prolapse here: [www.acog.org/Patients/FAQs/Surgery-for-Pelvic-Organ-Prolapse](http://www.acog.org/Patients/FAQs/Surgery-for-Pelvic-Organ-Prolapse).
- Talk with your provider and care team about assessment, medical management, and uterine sparing procedures as outlined in tables 1 and 2. These conversations might be helped through use of a patient decision aid. Patient decision aids are tools to help patients and providers have an informed conversation about goals of care, symptoms, risks, and benefits. Here are some available options:
- If you decide to have a hysterectomy, talk with your doctor about use of a minimally invasive approach.

**Health Plans**
- TBD

**Employers**
- Full recovery from a hysterectomy can take up to six weeks. Do not require employees to engage in heavy lifting until six weeks after surgery.

**Washington State Health Care Authority**
- Certify patient decision aids for hysterectomy.
Measurement

There are currently no applicable HEDIS 2017 measures. As this recommendation is meant as a foundational guideline, the workgroup encourages further investigation of metrics related to hysterectomy outcomes that are useful for quality improvement and relevant to patients. The American Congress of Obstetricians and Gynecologists has proposed the following measures, which may serve as a blueprint for further work:35

- Emergency room visits, inpatient admissions, and outpatient hospital visits for conditions related to the hysterectomy within 45 days of the procedure including:
  - Disruption of the wound
  - Gastrointestinal (GI) complaints and complications (nausea, vomiting, bowel obstruction, etc.)
  - Hemorrhage
  - Infection
  - UTI
  - Pain
  - Post-procedural circulatory complications (including PE/DVT)
  - Post-procedural respiratory complications (pneumonia, etc.)
  - Nerve injury
  - Urine retention
- Use of non-procedural therapy for patients under age 55 with abnormal uterine bleeding (AUB) and fibroids in the year prior to the hysterectomy.
- Oophorectomy in women under age 65 without a family history of relevant cancer.

Patient-reported outcomes
- Pain
- Regret
- Fatigue
- Sexual function, and
- Satisfaction
### Appendix A: Bree Collaborative Members

<table>
<thead>
<tr>
<th>Member</th>
<th>Title</th>
<th>Organization</th>
</tr>
</thead>
<tbody>
<tr>
<td>Susie Dade MS</td>
<td>Deputy Director</td>
<td>Washington Health Alliance</td>
</tr>
<tr>
<td>John Espinola MD, MPH</td>
<td>Executive Vice President, Health Care Services</td>
<td>Premera Blue Cross</td>
</tr>
<tr>
<td>Gary Franklin MD, MPH</td>
<td>Medical Director</td>
<td>Washington State Department of Labor and Industries</td>
</tr>
<tr>
<td>Stuart Freed MD</td>
<td>Chief Medical Officer</td>
<td>Confluence Health</td>
</tr>
<tr>
<td>Richard Goss MD</td>
<td>Medical Director</td>
<td>Harborview Medical Center – University of Washington</td>
</tr>
<tr>
<td>Jennifer Graves, RN, MS</td>
<td>Senior Vice President, Patient Safety</td>
<td>Washington State Hospital Association</td>
</tr>
<tr>
<td>Christopher Kodama MD</td>
<td>President, MultiCare Connected Care</td>
<td>MultiCare Health System</td>
</tr>
<tr>
<td>Daniel Lessler MD, MHA</td>
<td>Chief Medical Officer</td>
<td>Washington State Health Care Authority</td>
</tr>
<tr>
<td>Paula Lozano MD, MPH</td>
<td>Associate Medical Director, Research and Translation</td>
<td>Kaiser Permanente</td>
</tr>
<tr>
<td>Wm. Richard Ludwig MD</td>
<td>Chief Medical Officer, Accountable Care Organization</td>
<td>Providence Health and Services</td>
</tr>
<tr>
<td>Greg Marchand</td>
<td>Director, Benefits &amp; Policy and Strategy</td>
<td>The Boeing Company</td>
</tr>
<tr>
<td>Robert Mecklenburg MD</td>
<td>Medical Director, Center for Health Care Solutions</td>
<td>Virginia Mason Medical Center</td>
</tr>
<tr>
<td>Kimberly Moore MD</td>
<td>Associate Chief Medical Officer</td>
<td>Franciscan Health System</td>
</tr>
<tr>
<td>Carl Olden MD</td>
<td>Family Physician</td>
<td>Pacific Crest Family Medicine, Yakima</td>
</tr>
<tr>
<td>Mary Kay O’Neill MD, MBA</td>
<td>Partner</td>
<td>Mercer</td>
</tr>
<tr>
<td>John Robinson MD, SM</td>
<td>Chief Medical Officer</td>
<td>First Choice Health</td>
</tr>
<tr>
<td>Terry Rogers MD (Vice Chair)</td>
<td>Chief Executive Officer</td>
<td>Foundation for Health Care Quality</td>
</tr>
<tr>
<td>Jeanne Rupert DO, PhD</td>
<td>Medical Director, Community Health Services</td>
<td>Public Health – Seattle and King County</td>
</tr>
<tr>
<td>Kerry Schaefer</td>
<td>Strategic Planner for Employee Health</td>
<td>King County</td>
</tr>
<tr>
<td>Bruce Smith MD</td>
<td>Medical Director</td>
<td>Regence Blue Shield</td>
</tr>
<tr>
<td>Lani Spencer RN, MHA</td>
<td>Vice President, Health Care Management Services</td>
<td>Amerigroup</td>
</tr>
<tr>
<td>Hugh Straley MD (Chair)</td>
<td>Retired</td>
<td>Medical Director, Group Health Cooperative; President, Group Health Physicians</td>
</tr>
<tr>
<td>Shawn West MD</td>
<td>Family Physician</td>
<td>Edmonds Family Medicine</td>
</tr>
</tbody>
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Appendix B: Hysterectomy Workgroup Charter and Members

Problem Statement

Hysterectomy is one of the most frequent surgical procedures in the United States with approximately 600,000 performed annually.\(^1\) The most common indications for hysterectomy are uterine fibroids, endometriosis, and prolapse, however the procedure has a risk of complications including bladder or bowel injury, bleeding, and urinary incontinence among others.\(^2,3\) Hysterectomy rates are also highly variable, being one of the first published surgical procedures with rates differing primarily based on location, indicating overuse.\(^4\) Rates continue to be highly variable based on location in Washington State.\(^5\)

Aim

To align care delivery with existing evidence-based indications, route, and use of robotics for benign hysterectomy across Washington State and decrease inappropriate use.

Purpose

To propose recommendations to the full Bree Collaborative on:

- Evidence-based indications for, route, and use of robotics for benign hysterectomy.
- Increasing state-wide adherence to appropriate benign hysterectomy indications, route, and use of robotics.
- Measuring improvements in appropriate hysterectomy procedures.
- Identifying additional areas for recommendations within the scope of the workgroup.

Duties & Functions

The Hysterectomy workgroup will:

- Research evidence-based guidelines and best practices (emerging and established).
- Consult relevant professional associations and other stakeholder organizations and subject matter experts for feedback, as appropriate.
- Meet for approximately nine months, as needed.
- Provide updates at Bree Collaborative meetings.
- Post draft report on the Bree Collaborative website for public comment prior to sending report to the Bree Collaborative for approval and adoption.
- Present findings and recommendations in a report.
- Recommend data-driven and practical implementation strategies.
- Create and oversee subsequent subgroups to help carry out the work, as needed.
- Revise this charter as necessary based on scope of work.

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Structure

The workgroup will consist of individuals confirmed by Bree Collaborative members or appointed by the chair of the Bree Collaborative or the workgroup chair.

The chair of the workgroup will be appointed by the chair of the Bree Collaborative.

The Bree Collaborative project director will staff and provide management and support services for the workgroup.

Less than the full workgroup may convene to: gather and discuss information; conduct research; analyze relevant issues and facts; or draft recommendations for the deliberation of the full workgroup. A quorum shall be a simple majority and shall be required to accept and approve recommendations to send to the Bree Collaborative.

Meetings

The workgroup will hold meetings as necessary. The program director will conduct meetings along with the chair, arrange for the recording of each meeting, and distribute meeting agendas and other materials prior to each meeting. Additional workgroup members to be added at the discretion of the chair.

<table>
<thead>
<tr>
<th>Name</th>
<th>Title</th>
<th>Organization</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pat Kulpa, MD,MBA</td>
<td>Medical Director</td>
<td>Regence BlueShield</td>
</tr>
<tr>
<td>Sharon Kwan, MD, MS</td>
<td>Interventional Radiologist</td>
<td>University of Washington Medical Center</td>
</tr>
<tr>
<td>John Lenihan, MD</td>
<td>Medical Director of Robotics and Minimally Invasive Surgery</td>
<td>MultiCare Health System</td>
</tr>
<tr>
<td>Jennie Mao, MD</td>
<td>Clinical Assistant Professor, Department of Obstetrics and Gynecology</td>
<td>University of Washington Medical Center</td>
</tr>
<tr>
<td>Sarah Prager, MD</td>
<td>Chair</td>
<td>Washington State Section of ACOG</td>
</tr>
<tr>
<td>Kevin Pieper, MD</td>
<td>Chief, Women’s and Children’s</td>
<td>Providence Regional Medical Center Everett</td>
</tr>
<tr>
<td>Kristin Riley, MD, FACOG</td>
<td>Assistant Professor, Department of Obstetrics and Gynecology</td>
<td>University of Washington Medical Center</td>
</tr>
<tr>
<td>Jeanne Rupert, DO, PhD (Chair)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Anita Showalter, DO, FACOOG</td>
<td>Associate Professor and Chair, Women’s Health</td>
<td>Pacific Northwest University of Health Sciences</td>
</tr>
<tr>
<td>Susan Warwick, MD</td>
<td>Obstetrics and Gynecology</td>
<td>Kaiser Permanente</td>
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## Appendix C: Hysterectomy Guideline and Systematic Review Search Results

Results as of August 2017.

<table>
<thead>
<tr>
<th>Source</th>
<th>Guidelines or Systematic Reviews</th>
</tr>
</thead>
</table>
| AHRQ: Research Findings and Reports (including USPSTF reviews) | (2017 – Research protocol to update 2012) [Nonsurgical Treatments for Urinary Incontinence in Adult Women: A Systematic Review Update](#)  
(2016 – research protocol) [Management of Uterine Fibroids](#)  
(2014) [Chronic Urinary Retention: Comparative Effectiveness and Harms of Treatments](#)  
(2015) [Noncylic Chronic Pelvic Pain Therapies for Women: Comparative Effectiveness](#)  
(2014) [Benefits and Harms of Routine Preoperative Testing: Comparative Effectiveness](#)  
(2013) [Primary Care Management of Abnormal Uterine Bleeding](#)  
(2012) [Nonsurgical Treatments for Urinary Incontinence in Adult Women: Diagnosis and Comparative Effectiveness](#) |
| Cochrane Collection | (2016) [Surgery versus medical therapy for heavy menstrual bleeding](#)  
(2016) [Surgical management of pelvic organ prolapse in women](#)  
(2016) [New health evidence gives women informed choice in the prolapse surgery debate](#)  
(2015) [Surgical approach to hysterectomy for benign gynaecological diseases](#) (vaginal vs. abdominal vs. laparoscopic vs. robot-assisted)  
(2015) [Use of progesterone or progestogen-releasing intrauterine systems for heavy menstrual bleeding](#)  
(2014) [Use of computer or robotic technology to assist surgeons in performing gynaecological surgery](#)  
(2014) [Uterine artery embolization for symptomatic uterine fibroids](#)  
(2014) [Minimally invasive surgical techniques versus open myomectomy for uterine fibroids](#)  
(2014) [Interventions to reduce haemorrhage during myomectomy for treating fibroids](#)  
(2013) [Endometrial destruction techniques for heavy menstrual bleeding using newer global ablation techniques and established hysteroscopic techniques](#)  
(2013) [A comparison of the effectiveness and safety of two different surgical treatments for heavy menstrual bleeding](#) (endometrial resection or ablation vs. hysterectomy)  
(2013) [Pre-operative endometrial thinning agents before endometrial destruction for heavy menstrual bleeding](#)  
(2013) [Progestogens or progestogen-releasing intrauterine systems for uterine fibroids](#)  
(2012) [Subtotal versus total hysterectomy](#) (whether to remove cervix)  
(2012) [Mifepristone for uterine fibroids](#) |
(2017) The American College of Obstetricians and Gynecologists [Pelvic Organ Prolapse](#)  
(2014) American College of Physicians [Nonsurgical management of urinary incontinence in women: a clinical practice guideline from the American College of Physicians](#) |
<table>
<thead>
<tr>
<th>Source / Guideline</th>
<th>References</th>
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<tr>
<td>Health Technology Assessment Program</td>
<td>No relevant reviews</td>
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<td>Center for Disease Control</td>
<td>Data on hysterectomies from National Survey of family growth <a href="http://www.cdc.gov/nchs/nsfg/key_statistics/s.htm#sterilizationfemale">www.cdc.gov/nchs/nsfg/key_statistics/s.htm#sterilizationfemale</a></td>
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<tr>
<td>Institute for Clinical and Economic Review</td>
<td>No relevant reviews</td>
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</table>
References

7. www.acog.org/Patients/FAQs/Hysterectomy