Use of the Veres needle to obtain pneumoperitoneum prior to laparoscopy

This statement has been developed and reviewed by the Women’s Health Committee and approved by the RANZCOG Board and Council.

A list of Women’s Health Committee Members can be found in Appendix A.

Disclosure statements have been received from all members of this committee.

**Disclaimer** This information is intended to provide general advice to practitioners. This information should not be relied on as a substitute for proper assessment with respect to the particular circumstances of each case and the needs of any patient. This document reflects emerging clinical and scientific advances as of the date issued and is subject to change. The document has been prepared having regard to general circumstances.

First endorsed by RANZCOG: April 1990
Current: March 2015
Review due: March 2018

Consensus statement of the Royal Australian & New Zealand College of Obstetricians & Gynaecologists (RANZCOG) and the Australasian Gynaecological Endoscopy and Surgery Society (AGES).

**Objectives:** To provide advice on the use of the Veres needle to obtain pneumoperitoneum prior to laparoscopy.

**Target audience:** Health professionals providing gynaecological care, and patients.

**Values:** The evidence was reviewed by the Women’s Health Committee (RANZCOG), and applied to local factors relating to Australia and New Zealand.

**Background:** This statement was first developed by Women’s Health Committee in April 1990 and reviewed in March 2015.

**Funding:** The development and review of this statement was funded by RANZCOG.
Use of the Veres needle to obtain pneumoperitoneum prior to laparoscopy

C-Gyn 7
1. **Introduction**

Laparoscopy using the Veres needle has been performed by gynaecologists since 1970. Members in gynaecological training and Fellows of the RANZCOG have been trained in insertion of the Veres needle with the same skill and care as when taught peritoneal entry at laparotomy by consultants.

Teachers adopt specific techniques and guidelines when instructing junior doctors in the application of the Veres needle. These include amongst others: intra-umbilical incision, direction away from major vessels, modification of the technique or consideration of alternative sites following previous surgery and consideration under some circumstances of the use of micro-laparotomy techniques when underlying adhesions are suspected.

In gynaecological practice, laparoscopy is a procedure which may need to be repeated several times over a patient’s lifetime (eg for infertility, endometriosis, and/or pelvic pain).

Adhesion formation is rare as a result of a repeated use of closed laparoscopy whereas adhesion formation is more likely with Hasson technique.

Complication rates from the Veres needle insertion are reported to be in the order of 1:1000-1500. The method used to obtain pneumoperitoneum should remain at the discretion of the surgeon, depending on skill, individual case judgement and previous training.

2. **AGES Entry Guidelines**

2.1 *Intraumbilical Veres Needle Entry*
This technique of inserting the Veres needle has been developed as a guideline by the Australasian Gynaecological Endoscopy and Surgery Society.

2.2 *Preparation*
Patient cleaned, draped and bladder emptied. No tilt. Palpation of the aorta and sacral promontory if possible.

2.3 *Instrumentation*
Minimal equipment standards. Veres needle: Gynaecologists should be aware that reusable Veres needles may be damaged and must be checked to assess sharpness and the spring mechanism prior to insertion. A single use Veres should be used if there is any concern about the condition of a reusable needle.

Insufflator and tubing - assess correct connections and free flow of CO$_2$ with Veres attached. Assess baseline pressures in system.

Light lead, camera and laparoscope - produces adequate lighting, resolution and white balance system.

Trocars - appropriately functioning trocars.

Scalpel blade - size 15 or size 11 preferable.

2.4 *Incision*
Intra-umbilical incision of dermis. Preferable technique of the blade cutting up and out from centre of umbilicus. Particular care should be taken in very thin patients to avoid damaging underlying structures.
2.5 Insertion of Veres
- Tap open
- Insertion perpendicular to skin, aiming for centre of the pelvis (with/without abdominal wall elevation dependant on patient habitus and surgeon preference)
- Constant gentle pressure
- A single or two ‘pops’ may be felt (fascia and peritoneum)
- Cease insertion as soon as peritoneal entry achieved

2.6 Test placement
Consider the aspiration, and saline drop tests. Gas pressure - observe intra-abdominal pressure and flow rate. These should be adequate assessments of whether the Veres needle is in the intra-abdominal space (in the correct position). The ‘swinging needle’ test, where the tip of the Veres is manipulated, should be avoided as it may compound any injury. None of these tests have a high predictive value for injury.

If placement of the Veres needle fails after 3 attempts consider abandoning the procedure or look at alternative entry methods or sites or ask for senior assistance.

2.7 Insufflation
Commence insufflation at 1 litre per minute. Initial pressure in the non obese patient should be less than 8mm Hg. Sometimes it can be 10mm Hg if the patient is significantly overweight or if insufflating at Palmer’s point (left mid clavicular line below the last rib). Volume insufflated should be sufficient to allow splinting of the abdominal wall for initial port entry without any anaesthetic complications. Some gynaecologists may choose to hyperdistend the abdominal cavity to an insufflation pressure of 25mm Hg before inserting the ports. Once the ports have been inserted this insufflation pressure should be reduced to maximum 15mm Hg.

2.8 Insertion of trocar
Perpendicular to skin, then aiming for the centre of the pelvis. Finger down trocar to act as guard. Constant pressure and/or twisting motion. Cease trocar insertion as soon as tip of trocar is in the peritoneal cavity. Insert laparoscope to confirm cannula is in the peritoneal cavity. To detect unsuspected injury, careful inspection should be undertaken of the entire abdomen and pelvis.

2.9 Alternative Entry Techniques
- Insertion of Veres needle at Palmer’s point
- Hasson open laparoscopy technique
- Direct entry technique
- Optical entry
- Suprapubic entry of Veres needle
3. Other suggested reading
Australasian Gynaecological Endoscopy and Surgery Society
http://www.ages.com.au

4. Links to other College statements

Evidence-based Medicine, Obstetrics and Gynaecology (C-Gen 15)

5. Patient information
A range of RANZCOG Patient Information Pamphlets can be ordered via:
https://www.ranzcog.edu.au/Womens-Health/Patient-Information-Guides/Patient-Information-Pamphlets
Appendices

Appendix A Women’s Health Committee Membership

<table>
<thead>
<tr>
<th>Name</th>
<th>Position on Committee</th>
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<tbody>
<tr>
<td>Associate Professor Stephen Robson</td>
<td>Chair and Board Member</td>
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<tr>
<td>Dr James Harvey</td>
<td>Deputy Chair and Councillor</td>
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<tr>
<td>Associate Professor Anusch Yazdani</td>
<td>Member and Councillor</td>
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<tr>
<td>Associate Professor Ian Pettigrew</td>
<td>Member and Councillor</td>
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<tr>
<td>Dr Ian Page</td>
<td>Member and Councillor</td>
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<tr>
<td>Professor Yee Leung</td>
<td>Member of EAC Committee</td>
</tr>
<tr>
<td>Professor Sue Walker</td>
<td>General Member</td>
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<tr>
<td>Dr Lisa Hui</td>
<td>General Member</td>
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<tr>
<td>Dr Joseph Sgroi</td>
<td>General Member</td>
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<tr>
<td>Dr Marilyn Clarke</td>
<td>General Member</td>
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<tr>
<td>Dr Donald Clark</td>
<td>General Member</td>
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<tr>
<td>Associate Professor Janet Vaughan</td>
<td>General Member</td>
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<tr>
<td>Dr Benjamin Bopp</td>
<td>General Member</td>
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<tr>
<td>Associate Professor Kirsten Black</td>
<td>General Member</td>
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<tr>
<td>Dr Jacqueline Boyle</td>
<td>Chair of the ATSIWHC</td>
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<tr>
<td>Dr Martin Byrne</td>
<td>GPOAC representative</td>
</tr>
<tr>
<td>Ms Catherine Whitby</td>
<td>Community representative</td>
</tr>
<tr>
<td>Ms Sherryn Elworthy</td>
<td>Midwifery representative</td>
</tr>
<tr>
<td>Dr Nicola Quirk</td>
<td>Trainee representative</td>
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Appendix B Overview of the development and review process for this statement

i. Steps in developing and updating this statement

This statement was originally developed in April 1990 and was most recently reviewed in March 2015. The Women’s Health Committee carried out the following steps in reviewing this statement:

- Declarations of interest were sought from all members prior to reviewing this statement.
- Structured clinical questions were developed and agreed upon.
- An updated literature search to answer the clinical questions was undertaken.
- At the March 2015 face-to-face committee meeting, the existing consensus-based recommendations were reviewed and updated (where appropriate) based on the available body of evidence and clinical expertise. Recommendations were graded as set out below in Appendix B part iii)

ii. Declaration of interest process and management

Declaring interests is essential in order to prevent any potential conflict between the private interests of members, and their duties as part of the Women’s Health Committee.

A declaration of interest form specific to guidelines and statements was developed by RANZCOG and approved by the RANZCOG Board in September 2012. The Women’s Health Committee members were required to declare their relevant interests in writing on this form prior to participating in the review of this statement.
Members were required to update their information as soon as they become aware of any changes to their interests and there was also a standing agenda item at each meeting where declarations of interest were called for and recorded as part of the meeting minutes.

There were no significant real or perceived conflicts of interest that required management during the process of updating this statement.

**iii. Grading of recommendations**

Each recommendation in this College statement is given an overall grade as per the table below, based on the National Health and Medical Research Council (NHMRC) Levels of Evidence and Grades of Recommendations for Developers of Guidelines. Where no robust evidence was available but there was sufficient consensus within the Women’s Health Committee, consensus-based recommendations were developed or existing ones updated and are identifiable as such. Consensus-based recommendations were agreed to by the entire committee. Good Practice Notes are highlighted throughout and provide practical guidance to facilitate implementation. These were also developed through consensus of the entire committee.

<table>
<thead>
<tr>
<th>Recommendation category</th>
<th>Description</th>
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<tbody>
<tr>
<td>Evidence-based</td>
<td></td>
</tr>
<tr>
<td>A</td>
<td>Body of evidence can be trusted to guide practice</td>
</tr>
<tr>
<td>B</td>
<td>Body of evidence can be trusted to guide practice in most situations</td>
</tr>
<tr>
<td>C</td>
<td>Body of evidence provides some support for recommendation(s) but care should be taken in its application</td>
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<tr>
<td>D</td>
<td>The body of evidence is weak and the recommendation must be applied with caution</td>
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<tr>
<td>Consensus-based</td>
<td>Recommendation based on clinical opinion and expertise as insufficient evidence available</td>
</tr>
<tr>
<td>Good Practice Note</td>
<td>Practical advice and information based on clinical opinion and expertise</td>
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Appendix C Full Disclaimer

This information is intended to provide general advice to practitioners, and should not be relied on as a substitute for proper assessment with respect to the particular circumstances of each case and the needs of any patient.

This information has been prepared having regard to general circumstances. It is the responsibility of each practitioner to have regard to the particular circumstances of each case. Clinical management should be responsive to the needs of the individual patient and the particular circumstances of each case.

This information has been prepared having regard to the information available at the time of its preparation, and each practitioner should have regard to relevant information, research or material which may have been published or become available subsequently.

Whilst the College endeavours to ensure that information is accurate and current at the time of preparation, it takes no responsibility for matters arising from changed circumstances or information or material that may have become subsequently available.