Clinical Guideline
Oxytocin augmentation and induction of labour infusion

Policy developed by: SA Maternal & Neonatal Clinical Network
Approved SA Health Safety & Quality Strategic Governance Committee on: 19 December 2014
Next review due: 31 December 2017

Summary
Clinical practice guideline on oxytocin augmentation and induction of labour (IOL).

Keywords
oxytocin augmentation and IOL, oxytocin, contractions, syntocinon, nonapeptide, induction, augmentation, diabetes mellitus, glucose tolerance, cardiovascular disorders, pyontraemia, headache, nausea, vomiting, abdominal pain, lethargy, drowsiness, unconsciousness, seizures, diuresis, convulsions, membranes, labour, hypercontractility, oxygen, intravenous fluids, fetal compromise, tocolytic, salbutamol, clinical guideline

Policy history
Is this a new policy? N
Does this policy amend or update an existing policy? Y
Does this policy replace an existing policy? Y
If so, which policies? oxytocin augmentation & induction of labour infusion

Applies to
All SA Health Portfolio
All Health Networks
CALHN, SALHN, NALHN, CHSALHN, WCHN, SAAS

Staff impact
All Staff, Management, Admin, Students, Volunteers
All Clinical, Medical, Nursing, Allied Health, Emergency, Dental, Mental Health, Pathology

PDS reference
CG187

Version control and change history

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Note:
This statewide guideline has been prepared to promote and facilitate standardisation and consistency of practice, using a multidisciplinary approach.

Information in this statewide guideline is current at the time of publication.

SA Health does not accept responsibility for the quality or accuracy of material on websites linked from this site and does not sponsor, approve or endorse materials.

The clinical material offered in this statewide standard/policy provides a minimum standard, but does not replace or remove clinical judgement or the professional care and duty necessary for each specific patient case. Where care deviates from that indicated in the statewide guideline contemporaneous documentation with explanation must be provided.

This statewide guideline does not address all the elements of clinical practice and assumes that the individual clinicians are responsible for:

> Discussing care with consumers in an environment that is culturally appropriate and which enables respectful confidential discussion. This includes the use of interpreter services where necessary,
> Advising consumers of their choice and ensuring informed consent is obtained,
> Providing care within scope of practice, meeting all legislative requirements and maintaining standards of professional conduct, and
> Documenting all care in accordance with mandatory and local requirements.
Introduction

Oxytocin is a hormone released from the posterior pituitary. As it stimulates rhythmic contractions of uterine smooth muscle, it can be used to induce or augment labour (MIMS Syntocinon® full prescribing information 2009) and to prevent or treat postpartum haemorrhage.

Oxytocin

- Oxytocin (Syntocinon®) is a synthetic nonapeptide identical with oxytocin.
- In the doses used it has only a very slight pressor and anti-diuretic activity (MIMS Syntocinon® full prescribing information 2009).
- Intrapartum oxytocin infusion regimens may be administered in the following:
  - Induction of labour
  - Augmentation of labour
- There is no hard evidence to recommend a particular dosage of oxytocin for induction or augmentation of labour infusion regimens. Oxytocin infusion regimens in this guideline are based on medical expert consensus.

Contraindications

- Hypersensitivity to oxytocin (Syntocinon®)

Precautions

- In women who have diabetes mellitus or abnormal glucose tolerance in pregnancy, oxytocin should be administered with 0.9 % sodium chloride to prevent hyponatraemia.
- In women with cardiovascular disorders the infusion volume should be kept low by using a more concentrated oxytocin solution (for more information on prophylaxis management of the third stage of labour in volume critical patients, see PPG, Cardiac disease in pregnancy, Postpartum).
- Avoid large volumes of oral and IV fluids with oxytocin administration.
## Water intoxication (Hyponatraemia)

- High doses of oxytocin or prolonged periods of infusion of oxytocin in electrolyte-free fluids may interfere with vasopressin receptors. This can result in **water intoxication**

## Symptoms and signs of water intoxication:

- Headache, nausea, vomiting and abdominal pain, lethargy, drowsiness, unconsciousness, grand mal type seizures, low blood electrolyte concentration

## Treatment

- Discontinue oxytocin infusion
- Restrict fluid intake
- Promote diuresis
- Correct electrolyte imbalance
- Control convulsions
- If coma is present: maintain a free airway, and carry out the routine measures for care of an unconscious patient

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### Induction of labour (IOL) regimen (oxytocin)

RCOG (2001) recommends the following oxytocin regimen guidelines:

- Allow a delay of six hours after administration of the last dose of vaginal prostaglandins before commencing oxytocin
- In women with intact membranes, amniotomy should be performed where feasible before starting an oxytocin infusion
- Use the minimum dose possible and aim for a maximum of 3 – 4 contractions in ten minutes
- Prescribe and record the dose of oxytocin being delivered (i.e. mU / minute)
- Continuous CTG whenever oxytocin is used for induction or augmentation
- Follow link to Induction of labour techniques for further information
- The oxytocin high dose regimen for IUFD is covered in chapter 102b
- The following regimen is consistent with RCOG and oxytocin (Syntocinon®) product guidelines. However, individual organisations may differ in their management
### Oxytocin induction / augmentation of labour dosage regimen

| Preparation                                                                 | Add 10 IU oxytocin to one litre of Hartmann’s solution or sodium chloride 0.9 %  
|                                                                            | Use an appropriate volumetric infusion pump  
|                                                                            | Infuse as a separate line piggybacked into the mainline |
| Initial rate:                                                              | > 12 mL / hour (2 mU / min) |
| Increments:                                                                | > Increase every 30 minutes by 12 mL / hour (2 mU / min) |
| Maximum:                                                                  | > 192 mL / hour (32 mU / min) |

**Prolonged oxytocin infusion**
- if a second litre of oxytocin infusion is required, consider doubling the dose per litre and running the infusion at half the rate (e.g. increase oxytocin dose to 20 units per litre and infuse dose at half the previous rate)

**Maximum oxytocin infusion dosage**
- The summary of product guidelines recommends a maximum dose of IV oxytocin 20 mU / minute
- In cases where labour progress is unresponsive, RCOG recommends higher doses, which should not exceed 32 mU / minute

Last reviewed: 14/01/13
High concentration / low volume oxytocin IOL dosage regimen

- This is a modification of the above oxytocin induction of labour regimen, allowing the same dose of oxytocin to be administered in 1/10th the volume of 0.9% sodium chloride
- Suitable for women with a cardiovascular disorder, who are sensitive to fluid overload

| Preparation | > Add 10 I.U oxytocin to a 100 mL bag of 0.9% sodium chloride  
|             | > Use an appropriate syringe pump  
|             | > Infuse as a separate line piggybacked into the mainline at the IV insertion point |

| Initial rate: | > Commence oxytocin at 0.6 - 1.2 mL/hour (1-2 mU/min) |

| Increments | > Increase every 30 minutes by 1.2 mL/hour (2 mU/min) |

| Maximum | > 19.2 mL/hour (32 mU/min) |

Maximum oxytocin infusion dosage

- The summary of product guidelines recommends a maximum dose of IV oxytocin 20 mU/minute
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Last reviewed: 14/01/13
Observations

**Induction of labour**
- Routine labour observations (partograph)

**Uterine hypercontractility without signs of fetal compromise:**
- Reduce oxytocin infusion rate and seek review

**Uterine hypercontractility with associated signs of fetal compromise:**
- Prolonged use of maternal facial oxygen therapy may be harmful to the baby and should be avoided. There is no research evidence evaluating the benefits or risks associated with the short-term use of maternal facial oxygen therapy in cases of suspected fetal compromise (NICE 2007)
- Decrease or discontinue oxytocin
- Position woman on her left side
- Increase intravenous fluids
- Review by medical officer
- Oxygen at 8 litres for duration of fetal compromise
- Palpate the uterus to determine uterine response to management
- Consider need for uterine tocolytic e.g. salbutamol (for further information, refer to PPG, tocolysis for uterine hypercontractility)
South Australian Perinatal Practice Guidelines

Oxytocin: augmentation and induction of labour infusion

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References


Abbreviations

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<th>Cardiotocograph</th>
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<td>e.g.</td>
<td>For example</td>
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<tr>
<td>Et al.</td>
<td>And others</td>
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<td>IOL</td>
<td>Induction of labour</td>
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<td>IU</td>
<td>International units</td>
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<tr>
<td>IV</td>
<td>Intravenous</td>
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<td>mg</td>
<td>Milligram(s)</td>
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<td>Millilitre(s)</td>
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<td>Millunit(s)</td>
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<td>RANZCOG</td>
<td>Royal Australian and New Zealand College of Obstetricians and Gynaecologists</td>
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<td>RCOG</td>
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