Clinical Practice Guidelines:
Obstetrics/Pre-eclampsia

Disclaimer and copyright
©2016 Queensland Government

All rights reserved. Without limiting the reservation of copyright, no person shall reproduce, store in a retrieval system or transmit in any form, or by any means, part or the whole of the Queensland Ambulance Service (‘QAS’) Clinical practice manual (‘CPM’) without the prior written permission of the Commissioner.

The QAS accepts no responsibility for any modification, redistribution or use of the CPM or any part thereof. The CPM is expressly intended for use by QAS paramedics when performing duties and delivering ambulance services for, and on behalf of, the QAS.

Under no circumstances will the QAS, its employees or agents, be liable for any loss, injury, claim, liability or damages of any kind resulting from the unauthorised use of, or reliance upon the CPM or its contents.

While effort has been made to contact all copyright owners this has not always been possible. The QAS would welcome notification from any copyright holder who has been omitted or incorrectly acknowledged.

All feedback and suggestions are welcome, please forward to:
Clinical.Guidelines@ambulance.qld.gov.au

<table>
<thead>
<tr>
<th>Date</th>
<th>April, 2016</th>
</tr>
</thead>
<tbody>
<tr>
<td>Purpose</td>
<td>To ensure consistent management of Pre-eclampsia.</td>
</tr>
<tr>
<td>Scope</td>
<td>Applies to all QAS clinical staff.</td>
</tr>
<tr>
<td>Author</td>
<td>Clinical Quality &amp; Patient Safety Unit, QAS</td>
</tr>
<tr>
<td>Review date</td>
<td>April, 2018</td>
</tr>
</tbody>
</table>

This work is licensed under the Creative Commons Attribution-NonCommercial-NoDerivatives 4.0 International License. To view a copy of this license, visit http://creativecommons.org/licenses/by-nc-nd/4.0/.
**Pre-eclampsia** is defined as a multisystem disorder that only occurs during pregnancy after 20 weeks gestation and up to 1 month post-partum.\[^1\] Pre-eclampsia is diagnosed by either a:

- systolic blood pressure (SBP) \(\geq 140\) mmHg and/or
- diastolic blood pressure (DBP) \(\geq 90\) mmHg plus one or more of:
  - neurological problems
  - proteinuria
  - renal insufficiency
  - liver disease
  - haematological disturbances
  - foetal growth restriction.

Pre-eclampsia and eclampsia are leading causes of perinatal and maternal morbidity and mortality. They can lead to placental abruption, DIC, cerebral haemorrhage, hepatic failure and acute renal failure.

**HELLP** syndrome is considered a variant of severe pre-eclampsia (Haemolysis, Elevated Liver enzymes and Low Platelets).

**Risk factors for placenta pre-eclampsia:**\[^2\]

- primigravada
- history of pre-eclampsia
- gestational hypertension
- extremes of maternal age
- renal disease
- diabetes
- obesity
- family history
- multiple pregnancies

The key principle to pre-hospital management of this condition is supportive care and the prevention of eclampsia, with the latter defined as the occurrence of one or more seizures superimposed on a history of pre-eclampsia. If eclampsia develops, the focus of management is to terminate any seizures in order to prevent maternal and any subsequent foetal hypoxia.

**Clinical features**

Clinical features can include:

- **Neurological**
  - headache
  - visual disturbance
  - seizure
  - hyperreflexia
  - clonus
- **Respiratory**
  - acute pulmonary oedema
- **Cardiovascular**
  - hypertension
  - generalised oedema
- **Gastrointestinal**
  - epigastric pain, RUQ tenderness
  - nausea and/or vomiting
- **Jaundice**
Risk assessment

- fluid administration should be conservative due to the risk of pulmonary oedema
- patients suspected or diagnosed with severe pre-eclampsia are considered high risk of eclampsia

Definitive care

The cure for pre-eclampsia is delivery of the placenta; therefore continued gestation post-diagnosis is based on a balance between potential maternal morbidity and continued foetal development, with both patients requiring close surveillance. Drug therapy often includes anti-hypertensive drugs and antenatal corticosteroids to accelerate foetal lung maturation.[3]

Consider:
- IV fluid
- Magnesium sulphate\(^{(4,5)}\)

High risk of eclampsia?
- CNS dysfunction
- Severe pre-eclampsia

- Maintain quiet environment
- Minimise body motion
- Attain position of comfort

Eclampsia:
- 1st line of treatment is magnesium sulphate
- 2nd line of treatment is midazolam if magnesium sulphate is unavailable or seizure prolonged

* Most common cause of seizure in pregnancy is epilepsy due to reduced seizure threshold

Note: Officers are only to perform procedures for which they have received specific training and authorisation by the QAS.