Clinical Review Criteria
UltraCom Scan for Hypertension in Pregnancy

NOTICE: Kaiser Foundation Health Plan of Washington and Kaiser Foundation Health Plan of Washington Options, Inc., provide these Clinical Review Criteria for internal use by their members and health care providers. The Clinical Review Criteria only apply to Kaiser Foundation Health Plan of Washington and Kaiser Foundation Health Plan of Washington Options, Inc. Use of the Clinical Review Criteria or any Kaiser Permanente entity name, logo, trade name, trademark, or service mark for marketing or publicity purposes, including on any website, or in any press release or promotional material, is strictly prohibited.

Kaiser Permanente Clinical Review Criteria are developed to assist in administering plan benefits. These criteria neither offer medical advice nor guarantee coverage. Kaiser Permanente reserves the exclusive right to modify, revoke, suspend or change any or all of these Review Criteria, at Kaiser Permanente’s sole discretion, at any time, with or without notice. Member contracts differ in their benefits. Always consult the patient’s Evidence of Coverage or call Kaiser Permanente Customer Service to determine coverage for a specific medical service.

Criteria
For Medicare Members
No documents found. CPT codes have no restrictions.

For Non-Medicare Members
There is insufficient evidence in the published medical literature to show that this service/therapy is as safe as standard services/therapies and/or provides better long-term outcomes than current standard services/therapies.

The following information was used in the development of this document and is provided as background only. It is provided for historical purposes and does not necessarily reflect the most current published literature. When significant new articles are published that impact treatment option, KPWA will review as needed. This information is not to be used as coverage criteria. Please only refer to the criteria listed above for coverage determinations.

Background
Preeclampsia is a major cause of maternal and perinatal morbidity and mortality. Among pregnant women, cardiac output may be associated with increased risk of preeclampsia. UltraCom is a continuous-wave Doppler computer that measures cardiac output. Using UltraCom, at-risk women can be identified and treatment to reduce maternal and neonatal adverse outcomes can be initiated.

Medical Technology Assessment Committee (MTAC)
UltraCom Scan
2/14/2001: MTAC REVIEW
Evidence Conclusion: This review addresses three questions:
1. Does UltraCom accurately measure cardiac output?
2. Is high cardiac associated with preeclampsia?
3. Does treatment of women with high cardiac output reduce the risk of preeclampsia?

Question 1: There were two small studies evaluating the validity of the UltraCom test. Both studies found a high correlation between the results of UltraCom testing and thermodilution. However, the sizes of the samples (n=11 and n=12) are insufficient to show that the UltraCom test can accurately measure cardiac output compared to the best available alternative test. (Easterling 1987, 1990 Am J Perinatol)

Question 2: There was one prospective cohort study that suggests an association between cardiac output and preeclampsia. However, this study did not control for confounding, particularly weight. The association between cardiac output and preeclampsia could be due to the weight differences between the two groups of pregnant women rather than cardiac output differences. (Easterling 1990)

Question 3: There was one small randomized controlled trial that found that women with high cardiac output who were treated with atenolol had a lower rate of preeclampsia than women with high cardiac output who were given placebo. Nulliparous women treated with atenolol also had babies that weighed significantly less than women treated with placebo. (Easterling, 1999). This single study provides insufficient evidence to draw conclusions about the effect of screening with UltraCom and subsequent treatment with atenolol on maternal and neonatal health outcomes. There is no evidence on the effectiveness of any other type of treatment.

All of the available studies on the use of UltraCom with pregnant women were done by a single group of researchers. Generally, replication by various groups of researchers in different settings provides stronger
effectiveness data. Moreover, these researchers are based at University Hospital, University of Washington, which is marketing the UltraCom test for pregnant diabetic women; we cannot exclude the possibility of a conflict of interest that might bias the research methodology.


The use of UltraCom Scan in the screening and treatment of hypertension in pregnancy does not meet the *Kaiser Permanente Medical Technology Assessment Criteria.*

<table>
<thead>
<tr>
<th>Date Created</th>
<th>Dates Reviewed</th>
<th>Date Last Revised</th>
</tr>
</thead>
<tbody>
<tr>
<td>02/14/2001 MDCRPC</td>
<td>04/04/2011, 02/07/2012 MDCRPC, 12/04/2012 MDCRPC, 10/01/2013 MPC, 08/05/2014 MPC, 06/02/2015 MPC, 04/05/2016 MPC, 02/07/2017 MPC, 12/05/2017 MPC, 01/09/2018 MPC, 11/06/2018 MPC, 11/05/2019 MPC</td>
<td>04/04/2011</td>
</tr>
</tbody>
</table>

MDCRPC Medical Director Clinical Review Policy Committee
MPC Medical Policy Committee

<table>
<thead>
<tr>
<th>Revision History</th>
<th>Description</th>
</tr>
</thead>
</table>

**Codes**

No specific codes for this service