

# Umbilical Artery Doppler

Approved by: Antenatal Forum

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Amendment May 2021: updated chart

## **Umbilical artery Doppler Study**

### **Background**

In a high-risk population, the use of umbilical artery Doppler has been shown to reduce perinatal morbidity and mortality. Umbilical artery Doppler should be the primary surveillance tool in the SGA fetus.<sup>1</sup>

### **Reporting standards**

Raised PI (previously reported as reduced EDF): If PI > than 95<sup>th</sup> centile<sup>2</sup> based on reference chart (Appendix 1)

Absent EDF

Reversed EDF

### **Management**

When umbilical artery Doppler flow indices are abnormal (pulsatility index > 95<sup>th</sup> centile and end-diastolic velocities present) offer repeat surveillance twice weekly, if delivery is otherwise not indicated.<sup>1</sup>

In fetuses with with absent/reversed end-diastolic offer repeat surveillance daily.<sup>1</sup>

Appendix 1 (Reference Chart)

#### **Umbilical Artery PI**

**H.Schaffer: "JOURNAL FUR FERTILITAT UND REPRODUKTION"**

**IPDS 1998 11<sup>th</sup> Congress of the International Perinatal Doppler Society July 2-4, 1998**

<b>Gestation Weeks</b>	<b>Umb A PI</b>		
	<b>Mean</b>	<b>5% tile</b>	<b>95% tile</b>
<b>20</b>	<b>1.43</b>	<b>1.09</b>	<b>1.77</b>
<b>21</b>	<b>1.39</b>	<b>1.05</b>	<b>1.74</b>
<b>22</b>	<b>1.36</b>	<b>1.01</b>	<b>1.70</b>
<b>23</b>	<b>1.32</b>	<b>0.98</b>	<b>1.66</b>
<b>24</b>	<b>1.28</b>	<b>0.94</b>	<b>1.63</b>
<b>25</b>	<b>1.25</b>	<b>0.91</b>	<b>1.59</b>
<b>26</b>	<b>1.22</b>	<b>0.87</b>	<b>1.56</b>
<b>27</b>	<b>1.18</b>	<b>0.84</b>	<b>1.53</b>
<b>28</b>	<b>1.15</b>	<b>0.81</b>	<b>1.49</b>
<b>29</b>	<b>1.12</b>	<b>0.78</b>	<b>1.46</b>
<b>30</b>	<b>1.09</b>	<b>0.75</b>	<b>1.43</b>
<b>31</b>	<b>1.06</b>	<b>0.72</b>	<b>1.40</b>

<b>32</b>	<b>1.03</b>	<b>0.69</b>	<b>1.38</b>
<b>33</b>	<b>1.00</b>	<b>0.66</b>	<b>1.35</b>
<b>34</b>	<b>0.98</b>	<b>0.63</b>	<b>1.32</b>
<b>35</b>	<b>0.95</b>	<b>0.61</b>	<b>1.30</b>
<b>36</b>	<b>0.93</b>	<b>0.58</b>	<b>1.27</b>
<b>37</b>	<b>0.90</b>	<b>0.56</b>	<b>1.25</b>
<b>38</b>	<b>0.88</b>	<b>0.54</b>	<b>1.22</b>
<b>39</b>	<b>0.86</b>	<b>0.51</b>	<b>1.20</b>
<b>40</b>	<b>0.84</b>	<b>0.49</b>	<b>1.18</b>
<b>41</b>	<b>0.81</b>	<b>0.47</b>	<b>1.16</b>
<b>42</b>	<b>0.80</b>	<b>0.45</b>	<b>1.14</b>

## References

1. The Investigation and Management of the Small-for-Gestational-Age Fetus.RCOG Green-top Guideline No. 31
2. ISUOG Practice Guidelines: diagnosis and management of small-for-gestational-age fetus and fetal growth restriction,2020
3. ISUOG Practice Guidelines: use of Doppler ultrasonography in obstetrics. Ultrasound Obstet Gynecol 2013; 41: 233–239

## Maternity Services

### Checklist for Clinical Guidelines being Submitted for Approval

Title of Guideline:	Umbilical Artery Doppler
Name(s) of Author:	
Chair of Group or Committee approving submission:	Antenatal Forum
Brief outline giving reasons for document being submitted for ratification	
Details of persons included in consultation process:	Antenatal forum members
Name of Pharmacist (mandatory if drugs involved):	
Issue / Version No:	2
Please list any policies/guidelines this document will supercede:	
Date approved by Group:	March 2021
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Please indicate key words you wish to be linked to document	Umbilical artery
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