of life (range 11–18 days). Wilcoxon signed rank-test was used to test for differences in cTnT between the different time-points.

**Results**
Mean gestational age was 26.1 weeks (range 23.0–27.9) and mean birth weight 838 g (438–1287 g). At postnatal day 3, median cTnT was 148 ng/l (range 82–386). cTnT decreased between day 3 and day 7 to 96 ng/l (68–214) (p < 0.001). Between one and two weeks of age, cTnT again increased to 144 ng/l (95–338) (p = 0.001). Thirty-four infants (57%) were treated for a hemodynamically significant PDA (hsPDA) at a mean age of 8 days (SD 3.3). Twenty-three received only pharmacological treatment, 9 had surgery after pharmacological treatment and 2 had primary surgery. cTnT did not differ at any of the three time points between infants treated for hsPDA and infants not treated. Five infants who later died had significantly higher cTnT at 7 days of age than the 55 survivors (median 175 ng/l, compared to 94 ng/l) (p = 0.01).

**Conclusion**
C TnT levels in extremely preterm infants are tenfold significantly higher cTnT at 7 days of age than the 55 survivors and infants not treated. Five infants who later died had significantly higher cTnT at 7 days of age than the 55 survivors (median 175 ng/l, compared to 94 ng/l) (p = 0.01).

**Methods**
Prospective echocardiography on day of life (DOL) 1, 7, 14, and 28 in 119 preterm infants <1500 g birth weight, of whom 36 developed BPD (oxygen supplementation at 36 gestational weeks). Non-BPD and BPD infants differed significantly in median[IQR] gestational age (23.3[24–26.5] weeks vs. 29[27–30] weeks, p < 0.001) and birth weight (661[532–871] g vs. 1100 [890–1290] g, p < 0.001).

**Results**
The rapid growth of length and body weight during the first 4 weeks of life was not matched by increased speckle tracking parameters. Infants with BPD differed significantly (p < 0.001) from those without BPD firstly, for all anthropometric parameters and conventional haemodynamic parameters except heart rate and secondly, for 2D-STE parameters global longitudinal systolic strain rate (GLSSR) and longitudinal systolic strain (LSSR) at the left free midwall segment. In infants with BPD, GLSSR (p < 0.001) and LSSR (p < 0.01) were significantly higher during the first week of life after which the differences disappeared. Low intra- and inter-observer variability was seen for longitudinal systolic strain and strain rate mid septum with a median coefficient of variation <4.6%.

**Conclusions**
Reproducible 2D-STE measurements are possible in preterm infants <1500 g. There are early (DOL 1 and 7) ventricular changes (GLSSR and LSSR) in very low birth weight infants who develop BPD.

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**PS-019**
**CHILDHOOD CARDIAC OUTCOME OF TWIN-TWIN TRANSFUSION SYNDROME AFTER INTRAUTERINE LASER TREATMENT: AN ECHOCARDIOGRAPHIC STUDY OF VENTRICULAR FUNCTION**
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**Background and aim**
Intrauterine laser treatment of placental vessels is used to alleviate abnormal circulatory load and cardiac morbidity affecting fetuses with twin-transfusion syndrome (TTTS). As the final cardiac outcome after such intervention is not known, we conducted this childhood follow-up study of cardiac function in twins treated with intrauterine laser for TTTS.

**Methods and results**
Nineteen TTTS pairs (11 male, 8 female) with a mean age of 4.5 (range 1.1–9.9) years were assessed with echocardiography 2D, Doppler, DTI, 3D and speckle tracking, and compared with nineteen age- and gender-matched singletons.

Recipient’s had a lower left ventricular E/A ratio compared with their donor twins [1.48(0.35) vs. 1.66(0.28), p < 0.05] but not compared with singleton controls, and all but one observation were within normal reference limits. There was no significant difference in the right ventricular E/A ratio [1.26(0.28) vs. 1.41(0.28), p = 0.06], but recipients showed a slightly lower right ventricular c/a ratio when DTI was used. TTTS twins had smaller longitudinal left and right ventricular dimensions than controls. Besides a marginally lower ventricular strain in donors compared with controls, speckle tracking could not demonstrate any group differences in systolic ventricular function.

**Conclusion**
Despite significantly different fetal cardiac loading conditions, survivors of laser-treated TTTS show only minor within-pair differences in diastolic cardiac function at follow-up. Cardiac function in TTTS twins compare well to singleton controls, suggesting a favourable long-term outcome.

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**Abstract PS-020 Table 1**

<table>
<thead>
<tr>
<th>Characteristics (n = 50)</th>
<th>FG + Controls</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gestational age at birth</td>
<td>37w + 6d</td>
<td>39w + 4d</td>
</tr>
<tr>
<td>(w = weeks + d = days)</td>
<td>(34w–40w)</td>
<td>(34w–41w)</td>
</tr>
<tr>
<td>Weight</td>
<td>2.23</td>
<td>3.24</td>
</tr>
<tr>
<td>(kg)</td>
<td>(1.58–2.73)</td>
<td>(1.99–4.00)</td>
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<tr>
<td>Right sphericity index</td>
<td>1.11–2.28</td>
<td>1.53–2.46</td>
</tr>
<tr>
<td>(L)</td>
<td>1.63</td>
<td>1.98</td>
</tr>
</tbody>
</table>

*Mean (Range).