

Hospital number	Age: >38 weeks corrected gestational and <16 years? (Y/N)	Within six hours of first meeting all following criteria (Y/N); - Acceptance to PICU as unplanned admission - Receiving mechanical ventilation with supplemental oxygen for abnormal gas exchange - Face-to-face contact with PICU staff or transport team	If all YES, complete Randomisation Form. Randomise if all inclusion criteria are YES and all exclusion criteria are NO	Eligibility confirmed by Name of staff	If randomised Trial Number	If not randomised Provide reason	

Exclusion criteria

- Death perceived as imminent
- Brain pathology / injury as primary reason for admission
- Known pulmonary hypertension
- Known or suspected sickle disease
- Known or suspected uncorrected congenital cardiac disease
- Receiving long-term invasive mechanical ventilation prior to this admission
- End-of-life care plan in place with limitation of resuscitation
- Recruited to Oxy-PICU in a previous admission

Unsure if a patient is eligible? Contact:

- Your Principal Investigator or research team
- ICNARC CTU:
 - 020 7269 9277 (in office hours) or
 - 020 7269 9295 (emergency; out of office hours)
- For non-urgent queries, email: oxypicu@icnarc.org