Standard Operating Procedure: East of England Paediatric Nurse-Led Weaning of High-Flow Oxygen Therapy (HHHFT)

Authors: Francesca Wright; Jane Jones

For use in: East of England Region Paediatric Departments. Guidance specific to the care of paediatric patients.

Used by: All paediatric medical & nursing staff

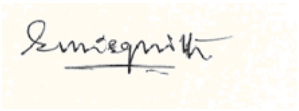
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1. Purpose

This SOP outlines the standardised process for nurse-led weaning of High-Flow Oxygen Therapy (HHHFT) in paediatric patients, in accordance with the existing regional HHHFT guideline. The aim is to support timely, safe, and consistent weaning of HHHFT while maintaining patient safety and optimising clinical outcomes.

2. Scope

This SOP applies to registered nurses working in paediatric critical care areas where HHHFT is used. It applies only to patients who meet the eligibility criteria for nurse-led weaning as defined below. Medical staff retain overall responsibility for patient care.

3. Related Documents

- Regional Guideline: Best practice guidance for using Heated Humidified High Flow Therapy (HHHFT) in children & young people: An East of England Approach
- Local Escalation and Deterioration Policy
- Oxygen Therapy Prescription Policy

4. Definitions

- **HHHFT**: Heated Humidified High-Flow Oxygen Therapy delivered via heated humidified nasal cannula.
- **Nurse-led weaning**: Adjustment of HHHFT settings by a senior registered nurse without immediate medical review, within predefined parameters.
- **FiO_2**: Fraction of inspired oxygen.

5. Roles and Responsibilities

5.1 Nursing Staff

- Assess patient eligibility for nurse-led weaning.
- Wean HHHFT in accordance with this SOP and the regional guideline.
- Monitor patient response and document all changes.
- Escalate concerns promptly according to local policy.

5.2 Medical Staff

- Initiate HHHFT and prescribe initial settings.
- Confirm patient suitability for nurse-led weaning.
- Review patients who do not tolerate weaning or who clinically deteriorate.

5.3 Nurse in Charge / Shift Leader

- Provide oversight and support for nurse-led weaning.
- Ensure staff are competent and familiar with this SOP.

6. Eligibility Criteria for Nurse-Led Weaning

Nurse-led weaning may commence when ALL of the following criteria are met, in line with the East of England PCC ODN HHHFT guideline:

- Sustained clinical response to HHHFT with improving or stable respiratory status.
- Oxygen saturations maintained within prescribed target range (≥92% unless otherwise specified).
- FiO_2 requirement between **0.30–0.40**.
- No red flags for deterioration, including:
  - Apnoeic or bradycardic episodes
  - Increasing work of breathing
  - Rising oxygen or flow requirements
- Stable PEWS with no triggers for escalation.
- Paediatric consultant or designated senior clinician has reviewed the child and documented suitability for weaning and nurse-led adjustment.

If these criteria are not met, medical review is required prior to any weaning.

7. Procedure: Nurse-Led Weaning of HHHFT

7.1 Pre-weaning Assessment

- Confirm eligibility criteria are met.
- Review latest medical and nursing documentation.
- Ensure continuous oxygen saturation monitoring is in place.
- Inform the nurse in charge prior to commencing weaning.

7.2 Weaning Process

Weaning must follow the East of England PCC ODN HHHFT guideline:

1. **Wean FiO_2 first** to achieve a target range of **0.30–0.40**, while maintaining oxygen saturations within the prescribed range.
2. Once FiO_2 is stable at **0.30–0.40**, **halve the flow rate**.
3. Closely observe the patient following any adjustment.
4. After 4-6 hours, if oxygen saturations remain within target range and there is no clinical deterioration, discontinue HHHFT and consider nasal cannula oxygen if indicated.

7.3 Monitoring During Weaning

- Continuous oxygen saturation monitoring.
- Minimum hourly observations in line with PEWS.
- Ongoing assessment of respiratory rate, work of breathing, heart rate, comfort, and tolerance.

7.4 Criteria to Pause or Stop Weaning

Immediately stop weaning and escalate for medical review if any of the following occur:

- Increased work of breathing or respiratory distress.
- Sustained desaturation below prescribed target range.
- Requirement to increase FiO_2 above **0.40–0.60**.
- Apnoea, bradycardia, or any clinical concern.

8. Escalation

- Follow local escalation and deterioration policies and the HHHFT red flag criteria.
- Immediately escalate for medical review if red flags are present.
- Increase FiO_2 as required to maintain patient safety while awaiting review.
- Document escalation, clinical findings, and actions taken.

9. Documentation

- Record all HHHFT changes, patient response, and assessments in the clinical record.
- Document time, settings, and rationale for any escalation.

10. Education and Competency

- Nurses undertaking nurse-led weaning must hold a Level 1 or higher Critical Care course qualification and have completed local HHHFT education and competency assessment.
- Ongoing competency should be maintained as per departmental requirements.

11. Governance and Review

- This SOP supports, but does not replace, the regional HHHFT guideline.
- This SOP will be reviewed every three years or earlier if guideline changes occur.

Annexe: East of England Nurse Led Weaning from HHHFT Flowchart for babies, children and young people

East of England Nurse Led Weaning from HHHFT Flowchart for babies, children and young people

STEP 1 | Patient ready to wean?

- Sustained clinical response
- Improving/stable work of breathing
- SpO_2 ≥ target (≥92% unless stated)
- FiO_2 0.30–0.40
- Stable PEWS
- NO red flags

NO → Continue current settings

YES ↓

STEP 2 | Are all criteria met?

- □ Medical team confirms suitability for nurse-led weaning
- □ No co-morbidities
- □ Supervising nurse has QIS Level 1 (minimum)

NO → Continue current settings. Ask for medical review to commence weaning and/or review staffing.

YES ↓

STEP 3 | Wean FiO_2

Wean FiO_2 first. Maintain target SpO_2.

Continuous SpO_2 monitoring
Minimum hourly observations (PEWS)
Assess RR, WOB, HR and comfort
Continue FiO_2 weaning as tolerated

FiO_2 stable at 0.30–0.40?

NO → Increase FiO_2 to achieve target saturations. Medical review if necessary. Continue full monitoring and restart from Step 1.

YES ↓

STEP 4 | Halve the flow rate

Child stable with FiO_2 0.30–0.40. Halve the current flow rate.

Continuous SpO_2 monitoring
Minimum hourly observations (PEWS)
Assess RR, WOB, HR and comfort

Is the child tolerating weaning?

NO → **STOP WEANING**
Medical review required
Return to last tolerated settings
Deliver FiO_2 to achieve target saturations

YES ↓

STEP 5 | Discontinue HHHFT

If the child remains stable after 4 hours on FiO_2 0.30–0.40 AND half flow rates, discontinue therapy. Consider use of low-flow nasal cannula oxygen.

Child may "self-wean". Consultant may review and discontinue therapy sooner.

RED FLAG: STOP & ESCALATE AT ANY POINT.
Increase FiO_2 as required and escalate as per local policy

- **Apnoea or bradycardia**
- **Increasing work of breathing**
- **Rising oxygen or flow requirement**
- **Sustained desaturation**
- **FiO_2 >0.40–0.60**
- **Any clinical concern**

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Exceptional Circumstances Form

Form to be completed in the **exceptional** circumstances that the Trust is not able to follow ODN approved guidelines.

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