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Alert No: 32

Clinical Alert: Reducing the risk of oxygen tubing being connected to air flow meters

Incidents leading to death and severe harm have been reported to the National Reporting and Learning System (NRLS) that describe the inadvertent connection of tubing to medical air instead of the oxygen supply intended for the patient's treatment. A Rapid Response Report¹ (RRR) issued by the National Patient Safety Agency (NPSA) in 2009 highlighted this risk and made recommendations to prevent such incidents. All hospitals providing NHS-funded care were asked to assess the risks of confusing oxygen and medical air and to develop action plans. In ELFT we do not use piped air or pressurised air.

The following solutions **are suggested for areas with medical air supply:**

- Removing air flowmeters from the outlets when these are not in active use; removing unnecessary equipment is a more effective method of reducing human error than displaying warnings on that equipment
- Placing warning labels on air and oxygen wall outlets
- Colour coding flowmeters (white – oxygen; black – air)
- Putting covers on air flowmeters that are used intermittently
- Ensuring that flowmeters are not obscured by curtains or other equipment
- Restricting the use of compressed air outlets on general wards (given the increased use of electrically driven compressors to provide an air supply for nebulisers)

Learning points

- Keeping air flowmeters away from a patient's bedside and only inserting them into the wall outlet when required
- Occlusion of air ports with non-removable discs in as many cases as possible
- Labelling flowmeters and putting clips over air outlets to increase awareness
- Including the removal of air flowmeters in checklists (eg. bed cleaning checklist)
- Reducing the need for medical air outlets by using compression or ultrasonic nebulisers
- Leaving oxygen flowmeters in place in all oxygen outlets ready for immediate

See supporting information: improvement.nhs.uk/newsalerts/reducing-risk-oxygen-tubing-being-connected-air-flowmeters for further details, other potential barriers and local implementation examples.