Review of Decontamination practice of flexible nasendoscopes (FNE): Audit results 2014

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Aims and objective

- To understand the current levels of practice of flexible nasendoscopy use
- Examine the decontamination practice and issues that nurses face in ENT departments across the UK.
- Compare these results to previous audits and consider future demands on departments any change in use it may bring
- Draw together guidance from several sources and summarise reflecting the current position and practice.
First fibre optic endoscope 1957 by Hirschowitz and Curtiss\textsuperscript{1}
Fibre optic nasendoscopy brought into mainstream ENT practice 1990s
Become ubiquitous in clinical practice and gold standard for quick examination of nasal cavity, post nasal space, Pharyngeal and laryngeal structures.
Importance has been recognised for effective decontamination and effective patient traceability.
Timeline of guidance

- Scope usage since 1960
  - No consensus on decontamination

- 1988 British society of gastroenterology
  - Working party on disinfection

- 1994 Apic Guidelines (USA)
  - Infection prevention in flexible GI endoscopy
  - Updated 97, 99

- 1997–2000
  - Further working parties
    - Withdrawal of glutaraldehyde
    - vCJD a serious risk

- Medical devices agency 2002
  - Scope decontamination

- Joint Advisory group on GI endoscopy
- National Services Scotland
  - Endoscope reprocessing (2004 and 2007)
  - An overview

- ENT UK
  - Guidance on decontamination of flexible scopes 2005
  - Updated (swift 2010)

- Department of health (2013)
  - Choice Framework for local Policy and Procedures 01–06 – Decontamination of flexible endoscopes: Policy and management
The literature

- Papers from 1999 to 2014
- Considered different issues of FNE use
- Wipes vs washers
- Out of hours use
- Decontamination survey.
- Overviews (ENT UK 2010 and DH 2014)
Previous audits: Specifically for FNEs

- **1999 Banfield and Hinton**\(^8\)
  - First serious look at practice of FNE use
  - Lack of standard practice
  - Pts ‘exposed to unnecessary risk’

- **2002 kanagalingham et al**\(^9\)
  - Considers out of hours issues

- **2012 Radford et al**\(^10\)
  - 10 year follow up of out of hours FNE decontamination
  - Only ‘moderate’ improvement in decontamination safety

- **2014 Javed et al**\(^11\)
  - Audit done 2012
    - Decontamination methods
    - Protocols
    - Training

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**So why re-audit?**

- **RCN ENT maxillofacial forum audit 2014**
  - What has changed in 2 years?

- **logistical issues**

- **What is the impact of DH 2013**

- **‘best’ practice**
  - Consider nursing issues of FNE use.
    - Staff impact
    - Cost of scopes and decontamination
    - Scope care and storage
Method

- Questionnaire 15 questions
- Core structure of previous questionnaires\textsuperscript{8,10,11}
- Additional questions
- Focus on scope use decontamination, storage and management.
- Impact on departments workforce
- Sent out via RCN forum groups
- Sent out to all departments on ‘ENT network’
- July 2014 to Sept 2014
- 73 replies across the UK
Questions posed

- Number of endoscopes and frequency of use.
- Type of disinfection
- Storage of endoscopes and equipment issues
- Staffing Issues
  - Training
  - Who is principally decontaminates scopes
- Guideline use
  - Local
  - National
Results

Number of flexible nasendoscopes

- 1 - 5: 38.4%
- 6 - 10: 28.8%
- 11 - 15: 11.0%
- 16 - 20: 8.2%
- 20+: 13.7%
Number of FNEs used per day

- 1 - 10: 24.7%
- 11 - 20: 35.6%
- 21 - 30: 23.3%
- 30+: 16.4%

N=73
Decontamination methods

Chemical cleaning

- Simple and quick
- Scopes don’t leave department
- However cleaning reliant on the user

Automated washers

- Can process high volumes of scopes. ?improve costs
- Quality control and traceability more robust
- Often away for clinical area
- Cycle times at least 20mins
- Can ‘breakdown’
Types of decontamination

Users are clearly using more than one method

- Chemical wipes: 68.9%
- Automated machines: 43.2%
- Flexible sheaths: 12.2%
- Other: 8.1%
Types of chemical wipe uses

- Electrolysed saline (Sterilox) 3.9%
- Chlorine dioxide (Tristel) 2.0%
- Alcohol wipes
- Paracetic acid (Steris, NuCidex, Parasafe, Gigasept)
- Gluteraldehyde
- Other 94.1%
How have you been using washers?

Is it in your department?

- Less than five years: 56.3%
- Yes: 31.3%
- No: 68.8%
Are your scope washers ever out of commission?

- Yes: 28.8%
- No: 49.2%
- Don't know: 22.0%
Scope care

Pre wash with soap and water
- Yes: 86.3%
- No: 9.8%
- Don't know: 3.9%

After wiping are scopes rinsed and allowed to dry
- Yes: 90.2%
- No: 9.8%
Where are scopes stored?

- In a plastic bag: 9.8%
- In a container: 51.0%
- In a cupboard/cabinet: 19.6%
- Other: 19.6%

Re-decontaminate scopes >72hrs

- Yes: 73.3%
- No: 20.0%
- Don't know: 6.7%
Written protocols

- Yes: 78.7%
- No: 5.3%
- Don't know: 16.0%

High risk protocol (e.g., vCJD)

- Yes: 29.7%
- No: 39.2%
- Don't know: 31.1%
Have had to employ more staff?

- Yes: 20.3%
- No: 67.6%
- Don't know: 12.2%

Who carries out decontamination?

- Registered nurses: 20.3%
- HCAs: 47.3%
- CSSD: 13.5%
- Other: 18.9%
Are staff given training?

Only 33 respondents were aware of any published guideline. Including:
- ENT UK (7)
- National guidelines (6)
- Local (6)
- DH (6)
- Tristel (3)
Do use rigid scopes in your clinic?

- Commonly decontaminated in CSSD.
- Some sent to an external agency for decontamination.
HCAs are principally undertaking decontamination of FNE (47.3%)
Extra staff and training needed.
Storing of scopes post decontamination
Ensuring traceability is adhered

Extra work of re-decontamination of scopes after weekends and bank holidays (post 72 hours) (73%).
Scopes are often cleaned away from the unit if washers are used (68.8%)
High volumes of FNE being processed
More than 61% of units have more than 6 scopes. 
Over 75% say they use > 11 scopes a day with 16 using > 30. 
68% decontaminate with Tristel chemical wipes. 
31 responses/units have automated washers. 
Over half of these have be purchased in the last 5 years
What has changed?

![Bar chart showing changes in various factors such as chemical disinfection, automated machines, written protocol, nurse training, and high risk over different years such as 1999, 2012, and 2014.](chart.png)
Discussion summary

- Considered FNE practices.
- How they are processed.
- The cost of quality control.
- Consideration of impact on staffing and training.
- The evolvement of guidelines and their impact on practice.
- Consideration for future planning.
Summary and conclusion

- The number of patients being scoped has increased
- A significant portion of time is now taken up in decontamination.
- Costs to trusts in equipment staff and training is considerable.
- Training has increased but we need to aim for close to 100% of staff.
- HCAs are predominately processing nasendoscopes (depending on staff) and some units have increased their numbers.
- Tristel 3 wipe system remains the most common form of decontamination but automated washers are becoming increasing common place.
- Automated machines are out of commission on occasions and units have to rely on alternative decontamination.
- There is guidelines but are not generally not well known and often relate to practices outside ENT.
- There are a variety of interpretations of DH guidelines
- There is still only 30% that have high risk guidelines.
Recommendations

- We need to pick out what is important.
- Aim for consistency across the UK
- Ensure we involve HCAs RCN groups
- Collaborative working with RCN and ENT UK in reviewing guidance and RCN position for its members.
- Build in regular national audit of decontamination practices throughout our network.
References

7. Department of health (2013) Decontamination of flexible nasendoscopes; Operational management. HMSO