

1.SURGICAL SMOKE

- What is in it?
- What are the potential hazards?
- What measures are there to prevent exposure?
- Supporting papers.

2. Where does it come from?

- Pyrolysis from;
- Lasers
- Diathermy (Cut and coag)
- Harmonic scalpels

Exceptions to the rule

- RF generated cautery
- RF generated cutting

3. What does it contain?

- Acrolein, CO, Creosols, Formaldehyde,
- Hydrogen Cyanide, Phenol.
- Benzene, Methane, Propene, Styrene,
- Toluene - amongst 70 others
- Intact viral DNA!!!
- Intact Cancer cells!!!

4. Particle size

- Bone wetted with blood.
- Coag mode >20% less than 0.1 Micron
- Cut mode >40% less than 0.1 micron

5. Is there a danger to theatre staff.

- NIOSH study 1989 (report No 85-126-1932) showed that contaminants were in the breathing zone of staff.
- HIV is known to be able to infect alveolar macrophages by bonding with their CD4 receptor sites.
- Some surgeons have claimed they have contracted HPV from Lazer smoke plume in treating Vaginal warts.

6. Is there a danger to theatre staff

- The mere presence of the chemicals listed in slide 3 is a great cause for concern (NIOSH statement).

7. Is there a danger to patients

- In a study of female patients undergoing laparoscopic surgery using a smoke generating device,
- 100% had an abnormal and significant elevation of methemoglobin levels in their blood.

8.Prevention

Smoke extractors

Masks and goggles

Hood and helmet systems

Plumeaway

9.Supporting papers

- Supporting papers can be requested through Q Technologies Education, or contact your local sales person.

Web sites

- www.infectioncontrolday.com
- www.aorn.org
- www.cdc.gov
- www.osha.gov.html
- akmedical@live.co.uk

10. Questions