**TABLES:**

**Table 1**. Main characteristics of the aerosol produced by ultrasonic scalpel.

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| --- | --- |
| Composition | * Tissue particles (two populations: <500 nm and >500 nm) * Blood aerosol * Intact and no viable cells, tumor cells in cancer resection. * Carcinogenic or irritant hydrocarbons (benzene, ethylbenzene, styrene, toluene, heptene, and methylpropene) |
| Characteristics | Various names: Aerosol, spray, plume or mist  Supposedly no smoke (low-temperature vaporization) 🡪 ↑ infectious and viable material |
| Sizes | Variation between studies. It depends on the type of tip or material.  Mean size by population:   * <500 nm: 68.3 nm * >500 nm: 994 nm |
| Quantity | Depends on the material composition where it acts (↑ water 🡪 ↑ quantity):   * Fatty tissue generated 10 to 20 times more particles than lean tissue * Blood: 500,000 particles/ L   Mean concentration by population:   * <500 nm: 6.10x105 cm3 * >500 nm: 1.48x103/cm3 |
| Distance | > 40 cm |
| Suspension duration | > 1 min (without evacuation methods) |
| Scatter pattern | Depends on:   * Type of scalpel tip (circumferentially, 120º arch…) * Material composition where it acts (↑ water 🡪 ↑ dispersion) * Ventilation conditions |
| Recommendations | * Active used of smoke evacuator * Avoid the use of ultrasonic scalpel in COVID-19 positive patients * Avoid the use of ultrasonic scalpel in upper airway surgery (↑ asymptomatic rate) * Follow the recommendations of the guidelines for management this type of patients (FFP3, ocular protection, PPE…) |