



ISM-VET-15 消毒与灭菌术

Disinfectant and Sterilization Methods

准备 PREPARATION:

It is important to understand that for many of these methods to be effective, gross debris such as blood or other

organic matter must be removed prior to use

This document is meant to be used as a guide only. Manufacture recommendations for specific products must be

followed with regards to contact time, refreshing solutions, and personal protection.

* indicates the veterinary preference

流程 PROCEDURE:

表一：固体表面消毒 Table 1: Hard-Surface High-Level Disinfectants

消毒剂 Disinfectant	备注 Comments
次氯酸、过氧化氢溶液 Peracetic acid/hydrogen peroxide/acetic acid solutions	低毒高效，安全柜内使用或佩戴护眼装置喷雾。Low toxicity. Effective. Should be used inside a hood or when wearing eye protection if sprayed/splash hazard.
异丙醇、乙二醇丁醚 Isopropyl alcohol and 2-Butoxyethanol	低毒高效 Low toxicity. Effective.
氯化物(次氯酸、二氧化氯)Chlorine (sodium hypochlorite, chlorine dioxide)	腐蚀性，有机材料使用效率低 Corrosive; organic material decreases the effectiveness
季铵盐 Quarternary Ammonium	去垢剂 Detergent properties
苯酚 Phenolics	腐蚀性，比其他试剂较少受到有机材料影响 Corrosive; less affected by gross organic material than other disinfectants
洗必泰 Chlorhexidine	不受有机材料影响 Not affected by the presence of organic material
乙醛 Aldehydes	毒性，限制使用，高效 Toxic, exposure limits are set by OSHA; very effective
苯酚醛溶液 Aldehyde/phenol solutions	毒性，限制使用，高效，对猫科动物毒性 Toxic, exposure limits are set by OSHA; very effective, Toxic to cats

表二：灭菌术 Table 2: Sterilization Methods

方法 Method	用途 Common Uses	使用时间 Required Time	备注 Comment
蒸汽灭菌 Steam Sterilization	蒸汽高压是最常用的方法。用于消毒手术器械和其他能够耐受水分和热量的设备。Steam autoclave is the most common method. Used to sterilize	30-40 分钟的循环加上冷却时间。30-40-minute cycle plus cooling time.	具体的时间、温度和压力取决于系统（标准的30分钟在121摄氏度和15 psi）。Specific time, temperature, and



	surgical instruments and other equipment that is tolerant of moisture and heat.		pressure are dependent on the system (standard 30 minutes at 121°C and 15 psi) Contact of materials with the steam is essential.
气体氧化灭菌 Gas Sterilization Ethylene Oxide (EtO)*	用于不支持传统高温蒸汽灭菌的医疗和医药产品，如包含电子元件、塑料包装或塑料容器的设备。限制适用。Used on medical and pharmaceutical products that cannot support conventional high temperature steam sterilization such as devices that incorporate electronic components, plastic packaging or plastic containers. Limitations apply.	可能需要长达 15 小时的时间来完成一个预调节、消毒和通气阶段。May need up to 15 hours to complete a preconditioning, sterilization, and aeration phase.	人员安全是一个重要的问题，是对人类的有害影响。限制使用。Safety of personnel is an important issue due to the harmful effect of EtO on humans. Limited availability.
液体次氯酸灭菌 Liquid Chemical Sterilization Peracetic acid	用于对热敏感、无孔材料。Useful for heat-sensitive, nonporous materials when access to sterilization equipment is limited.	5 个半小时的接触时间（物品必须被淹没）。5 1/2 hours of contact time (items must be submerged).	腐蚀金属工具。在用于动物组织之前用无菌水/盐水冲洗。Corrosive to metal instruments. Irritating to tissue. Rinse with sterile water/saline prior to use on animal tissues
液体二氧化氯灭菌 Liquid Chemical Sterilization-Chlorine	用于对热敏感、无孔材料。Used on nonporous materials, heat sensitive materials when access to sterilization equipment is limited.	6 小时的接触时间（物品必须被淹没）。6 hours of contact time (items must be submerged)	腐蚀金属工具。在用于动物组织之前用无菌水/盐水冲洗。Corrosive to metal instruments. Rinse with sterile water/saline prior to use on animal tissues.
液体甲醛灭菌 Liquid Chemical Sterilization Gluteraldehyde	用于对热敏感、无孔材料。Used on nonporous, heat-sensitive materials when access to sterilization equipment is limited	10 小时的接触时间（物品必须被淹没）。10 hours contact time (items must be submerged)	在用于动物组织之前用无菌水/盐水冲洗。Rinse with sterile water/saline prior use on animal tissues
液体洗必泰灭菌 Liquid Chemical Sterilization	用于对热敏感、无孔材料。Used on nonporous, heat-sensitive materials when access to sterilization equipment is	24 小时的接触时间（物品必须被淹没）。24 hours of contact time (items must be	在用于动物组织之前用无菌水/盐水冲洗。Rinse with sterile water/saline prior use on animal



Chlorhexidine	limited.	submerged)	tissues
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表三：皮肤消毒剂 Table 3: Skin Disinfectants

名称 Name	备注 Comments
洗必泰 Chlorhexidine	有效用于皮肤消毒。Excellent for use on skin
碘伏 Iodophors	有机材料活性降低。Organic material reduces activity.
酒精 Alcohols	不能作为主要消毒剂。不是一种高级消毒剂，酒精必须与碘酒或氯己啶一起使用。NOT ACCEPTABLE AS A PRIMARY DISINFECTANT. Not a high-level disinfectant, alcohols must be used in conjunction with an iodophore or chlorhexidine.

表四：手术间消毒要求 Table 4: Batch Surgery (between animals) Requirements

1. 当日初次使用前所有的手术器械均必须按照表二进行灭菌。All instruments must be sterilized (TABLE 2) prior to the first surgery of the day.
2. 必须始终保持器械无菌（保存在无菌包或其他无菌环境）Sterility of instruments must always be maintained (placement on a sterile drape or other sterile field).
3. 操作前所有的血液或类似的有机物质必须使用无菌拭子、纱布和无菌盐/水来去除。Prior to the use of these methods, all blood or similar organic matter must be removed using sterile swabs, gauze and sterile saline/water.