

GROUP III - HOSPITAL WASTES ASSESSMENT OF HEALTHCARE RISK WASTE IN AUSTRIA

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INTRODUCTION

In recent years debate regarding hospital waste has taken place in European countries. This debate naturally centered on hazardous waste, especially "infectious waste" was strongly influenced by media reports on hospital waste (hospital waste being synonymous with infectious waste). The debate was therefore influenced by unobjective arguments.

In other European countries and the United States (1) the concern about hospital waste and its potential infectious risks led to a point where medical waste was incinerated in mostly antiquated hospital-owned or central facilities without consideration either of recycling systems or of immission risks. Some countries disinfect the large majority of their waste and subsequently incinerate or deposit it on household refuse tips where it promptly comes into contact with the same germs of which it has previously been rid by disinfection at high expense of energy and costs. For most hospital waste disposal methods mentioned above are not acceptable from ecological and hygienic points of view.

A consensus paper signed by 53 German public health specialists and physicians (2) was published in 1987. It pointed out that medical waste poses no greater threat of infection than infected humans and their domestic refuse and listed for the first time those diseases requiring disinfection of hospital waste if their pathogens (may) occur in the waste.

ÖNORM-STANDARDS

The Austrian standard ÖNORM S2104 "Waste from medical institutions" (3) is to ensure the proper treatment of waste from medical institutions in order to prevent health hazards due to injuries, infections or poisoning and to prevent environmental hazards and shall be applied by all those involved in generating and handling waste from medical institutions (preparation, collection, transportation, intermediate storage, recycling and disposal).

The possibilities of avoiding waste and of source separation for recycling shall be utilized as much as possible as long as this is justifiable in terms of hygiene. The use of disposable medical articles shall be examined in view of appropriateness and hygienic necessity.

This standard is not applicable to nuclear waste (special regulations) unless this waste may be disposed like inactive waste according to a permission obtained in line with the radiation protection regulations.

According to the standard the hospital waste divides up into the following types:

1. **Medical waste that may be treated like domestic waste and should be recycled as far as possible:**
 - waste similar to domestic waste, e.g. packaging (cardboard, sheet metal, plastics, etc.), paper (newspaper, etc.), flowers, china, glass, textiles and kitchen waste,

- bulk waste, e.g. furniture, crates and equipment,
 - street sweepings,
 - garden and park waste,
 - disinfected waste unless it is still hazardous waste due to its properties,
 - straw and excrements from laboratory animals provided that the spreading of pathogens is not to be feared.
2. **Medical waste that may constitute a hazard for infections or injuries only within medical institutions and need not to be treated like hazardous waste:**
 - dressings, plaster casts, stool diapers, disposable underwear, sanitary towels, tampons, disposable articles (e.g. swabs, gloves, disposable syringes without needles, catheters, urine collection systems, infusion bags, infusion devices without mandril), even if they are blood-tinged,
 - needles and other pointed or sharp objects likely to cause injuries such as lancets, scalpels and rests of ampoules. Any waste of this kind shall be made available in accident-proof containers.
 3. **Medical waste constituting a hazard inside and outside of medical institutions and, thus, requiring special treatment in both areas:**
 - waste contaminated with hazardous pathogens; furthermore not disinfected microbial cultures,
 - body parts and organ waste,
 - straw and excrements from laboratory animals provided that the spreading of pathogens is to be feared,
 - carcasses of laboratory animals.

In the new Austrian standard (4) dated 1 October 1992 (presently not yet legally binding) the number of pathogens defining "infectious" diseases is limited and defined as follows: "Waste contaminated with hazardous pathogens: waste contaminated with pathogens of notifiable diseases, provided that a spread of the disease is to be feared.

Additional requirements (such as segregated collection and disinfection) may derive from the type of pathogen, its virulence, viability and path of transmission, the extent and type of contamination and the quantity of waste involved. According to the present state of knowledge, such waste may derive from the following diseases: *cholera, leprosy, anthrax, paratyphoid fever A, B, and C, plague (human and animal), rabies, tularemia, typhoid (enteric) fever, virus-induced haemorrhagic fever, brucellosis, Australian fever, glanders, tuberculosis (active form), psittacosis and foot- and mouth-disease.*"

In essence, this definition (5) was taken over from the German State Government Working Group on Waste (LAGA-AG). However, there is no agreement on the number of diseases. Table 1 lists a comparison of infectious diseases leading to classification of medical wastes as infectious if pathogens