



Reducing Veterinary Waste: Surgical Site Infection Risk and the Ecological Impact of Woven and Disposable Drapes

Molly Vasanthakumar

The aim of this Knowledge Summary is to identify whether using disposable drapes decreases the risk of surgical site infections, with the view to provide an opportunity to reflect on the waste produced by the veterinary profession. We are currently facing a climate catastrophe.

The UK parliament recently declared climate change a national emergency. And by 2050, it is predicted that there'll be more plastic than fish by weight in the oceans. Currently, there is little information on the ecological impact of the veterinary profession. However, in the US, the healthcare industry is the second largest contributor to landfill. The veterinary profession produces various types of waste disposed of using medical waste, incinerators, recycling plants, and landfill sites. These disposal methods affect our ecosystem in various ways, such as through the release of pollutants from medical waste incinerators and methane emissions from landfill sites.

Surgical drapes were identified as a commonly used veterinary consumable, both reusable and disposable versions. Often disposable items are chosen over reusable, due to concerns over infection control and to ensure gold-standard treatment of our patients. However, studies have shown that reusable gown systems significantly reduced energy consumption, greenhouse gas emissions, and solid waste generation when compared to disposable options. So I set out to identify whether there is in fact, a decrease in the risk of surgical site infections with disposable drapes when compared to reusable.

After the database search was carried out, and the exclusion criteria implemented, three papers were reviewed. Of these three papers, one was a systematic review, and the other two were controlled trials. They were all human studies with various limitations and differing in relevance to the specific question. Only one of the studies measured surgical site infection as an outcome. The other two, lots of wet bacterial penetration and air bacterial counts. Both controlled trials had sample sizes that were too small therefore reducing the power of their findings.

Overall, the results were mixed and due to the limitations and the multifactorial nature of surgical site infections, and the fact that there were only three papers were reviewed, it is not possible to include the disposable drapes, reduce the risk of surgical site infections. Whilst a vet's primary responsibility is to the health and welfare of our animal patients, One Health concept recognizes that human health animal health and ecosystem health are all inextricably linked. It is our responsibility to promote and improve in all aspects. Based on the current evidence, it would seem possible that reusable drapes could be used for clean elective surgeries when they would reduce waste without compromising patient health. Whilst large scale commitment and support is needed for improvement on a global scale, waste reduction can be tackled by individuals and their practices. Improving awareness of our responsibility as vets, to care for the ecosystem, underlies successful attempts to decrease the impact of our profession on the planet.

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