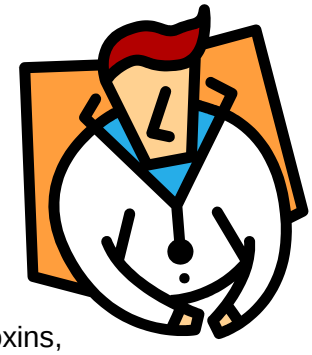
Fact Files – Accidental Self Injection

Self-injection of vaccines by producers and processing personnel is a serious concern. The following information outlines ways to avoid self-injection and the steps recommended if it does occur. We also have Material Safety Data Sheets (MSDS's) for our products available upon request.

Risk Factors



The bacterial portion of all of our autogenous bacterins is inactivated during production and as such does not pose a transmission risk. There is a risk however of bacterial contamination since the injection needle and the injection site may not be sterile. As well, some bacteria produce endotoxins, which can cause reactions in both animals and humans.

Our bacterins may contain formalin and Thiomersal. These chemicals are toxic, however; they are found in very low concentrations in the finished product.

The adjuvant system used to produce a bacterin does impact the medical treatment required if self-injection occurs. Aluminum hydroxide is a water based adjuvant system and so does not pose some of the risks associated with oil-based adjuvants. Oil emulsions can cause local tissue irritation, which can result in significant inflammation, particularly in non-muscle, non-fat tissue areas. Of greatest concern are areas that allow minimal swelling or that consist mainly of tendon tissue. Although the external site of injection does not look serious, the oil emulsion that has been injected is trapped and may travel along the tendon sheath or tissue plane. Within minutes, severe pain and swelling may begin. To defend itself, the body reacts against the injected material by releasing enzymes to break down the oil emulsion. This process also slowly dissolves the tendon and muscle tissue of the finger or hand. Surgery may be required if the emulsion is not removed early.

All accidental injections should be considered a **serious medical emergency.**

Preventing Accidental Injection

Employees performing injections should be thoroughly trained in the correct method of performing the operation and the risks involved. Caution should be exercised at all times.

The employee should be alert and use precision when injecting each animal. Short breaks or rest periods are necessary to prevent fatigue and other conditions such as strain injury, which can lead to self-injection.

Protective equipment such as leather finger tabs may also reduce the risk of self-injection. Physical conditions in the facility should be examined before beginning injections. Proper lighting is essential for accurate vaccination techniques. Physical hazards, which might cause tripping, cuts and bruises should be removed.

When setting up the injection equipment, a job instruction checklist or manufacturer's checklist should be followed to ensure that everything is ready before the operation begins. Procedures should be in place for proper disposal of used needles and other items that need to be replaced.

Procedures to Follow After Accidental Injection

1. Immediately put ice on the area where injection has occurred to reduce potential swelling.

2. Seek medical attention as soon as possible. Take essential information with you (such as the MSDS for the product, this fact sheet or similar information).

3. The affected area should be cleaned as soon as possible. The bacterial portion of autogenous bacterins does not pose a transmission risk. There is a risk however of bacterial contamination since the injection needle and the injection site may not be sterile. For these reasons, antibiotics and a tetanus shot (if needed) may be administered by medical personnel.

4. For oil based products, because of the nature of the emulsion (liquid paraffin, tween and mineral oil), the injected fluid MUST BE REMOVED. Therefore, medical personnel should lance, locally debride and remove the emulsion before tissue reaction begins.

5. It is critical that the attending physician knows that the product is an oil emulsion and should be treated for its content as well as for possible contamination due to injection.

*This information was referenced with the permission of the Poultry Industry Council, Guelph, ON

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