

# ACCIDENTAL SELF-INJECTION OF FISH VACCINE

If a needle that has been in contact with fish vaccine has penetrated your skin, you must seek medical assistance immediately – even if you believe that little to no vaccine has been injected.

**PHARMAQ** advises that you take these three steps in order to reduce the risk of permanent injury:



### **Seek medical assistance immediately**

This is of utmost importance, even if you believe that little to no vaccine has been injected.



### **Bring the PHARMAQ information leaflet**

The vaccine package leaflet and/or the self-injection folder must be brought with you to the doctor.



### **If symptoms persist**

Are you experiencing persistent pain, swelling, fever or discoloration of the skin more than 12 hours after injection? Please contact your doctor again.

Local doctor: \_\_\_\_\_

Local emergency sender: \_\_\_\_\_

Emergency number: \_\_\_\_\_

In case of accidental self-injection of fish vaccine, PHARMAQ must always be notified. Please contact your PHARMAQ representative or email [phvig@pharmaq.no](mailto:phvig@pharmaq.no)

# **TREATMENT OF SELF-INJECTION OF FISH VACCINE**

## **TO THE DOCTOR**

**You should do this to reduce the risk of permanent injury**

**Self-injection of small amounts of fish vaccine into human tissue can lead to severe pain and swelling, and in rare cases it can lead to necrosis and loss of the affected body part if proper treatment is not initiated.**

1. Affected area must be examined as soon as possible by surgically competent healthcare professionals
2. If vaccine has been injected, the area should be opened and drained. This is especially important if the ligaments and soft tissues of a finger are affected
3. A medical risk assessment must always be performed prior to surgery
4. If a needle scrapes the skin and no vaccine is injected, only local inflammation may occur and this can be treated with regular painkillers
5. The patient should be followed up after treatment for assessment of further measures

**Reference is made to the brochure “Advice in the event of accidental self-injection with fish vaccine”, for further information**

Information regarding self-injection while vaccinating farmed fish has been provided by Håkon Lasse Leira, Chief Physician at the Department of Occupational Health, St.Olavs Hospital, Trondheim, Norway

## **Procedure for the vaccinator and doctor in the event of self-vaccination of fish vaccine.**

### **General remarks**

Modern fish vaccines contain formalin-inactivated bacterial and/or viral antigens, as well as oil adjuvants. The standard dose is 0.05-0.1 ml, or in some cases, 0.2 ml. The injection is made into the abdominal cavity of the fish, either manually or by machine. Almost 450 million vaccinations of fish were carried out in Norway in 2011, approximately half manually and half by machine.

In the event that the entire dose is injected accidentally into the vaccinator's finger, the injury may become serious if the finger is not treated properly. **The injured operator must be taken urgently to hospital for surgical treatment within the space of a few hours.**

In the past it was recommended that vaccinators should have access to adrenalin as a contingency in the event of anaphylactic shock. However, the risk of shock must be extremely small since in over 20 years no incidence has been reported. Today, this contingency is best provided for by the regular health services. **It is recommended that the municipal health services are notified when vaccination operations commence and of the health risks associated with this procedure. A copy of this advisory leaflet can be provided to the local health care centre.**

Personnel assigned to carry out vaccinations must have thorough training prior to starting work. They must be familiar with safety procedures and the measures to be taken in the event of self-vaccination.

It is the responsibility of the Operations Manager, to prepare a contingency plan which includes notification of the local health services prior to the commencement of vaccination operations.

### **Information for the vaccinator**

There is a theoretical risk of anaphylactic shock following self-injection. In such cases the symptoms will become apparent a few minutes after injection. In addition to these local symptoms, the person will feel unwell, and may experience itchiness of the skin or around the eyes or mouth. At the same time he or she may feel warm, and a bright red rash may develop. This is often followed by heart palpitations, anxiety and pronounced listlessness. Irritation of the stomach and intestinal canal may give rise to stomach pains, nausea and vomiting. In especially serious cases, a person may experience difficulties in breathing, become confused and lose consciousness. Involuntary urinary or fecal incontinence may occur.

If shock is suspected, he or she must be taken to a casualty clinic or hospital as soon as possible. Call the local emergency services immediately and notify them that you have a patient who may be of risk of undergoing anaphylaxis following unattended vaccination. Every minute counts!

#### *Machine vaccination*

In the event of self-injection, most if not all of the dose will be injected into a finger. The injury should be examined by a surgeon within a few hours! As well as the reaction associated with the finger (pain, swelling, discolouration), swelling may also develop further up the arm, accompanied by listlessness, nausea and a high temperature. If the finger receives the proper treatment, these symptoms will normally pass in due course.

Antibiotics (penicillin or similar), anti-inflammatory drugs or painkillers are not sufficient! If the finger is not treated by a surgeon in time, the reaction may be so severe as to require amputation.

Information regarding self-injection while vaccinating farmed fish has been provided by Håkon Lasse Leira, Chief Physician at the Department of Occupational Health, St.Olavs Hospital, Trondheim, Norway

**NB! Never use your fingers to remove fish from the vaccination machine. Use sausage tongs or something similar!**

#### *Manual vaccination*

If the syringe tip only scrapes the skin, this will result only in local inflammation, and will require no treatment other than painkillers, if required. However, if the vaccinator becomes listless, or experiences nausea or a high temperature, it is likely that a larger proportion of the dose has been injected. In such cases he or she should seek medical advice if the symptoms continue for more than six hours.

If the entire dose has been injected into the finger, the injury must be examined by a surgeon, as described for machine vaccination.

#### **Information for doctors**

Modern injected fish vaccines contain formalin-inactivated bacterial and/or viral antigens, as well as a variety of oils used as adjuvants, such as mineral oils. The standard dose is 0.05-0.1 ml. The injection is made into the abdominal cavity of the fish, either manually or by machine. In the event of self-injection, most if not all of the dose will be injected into the vaccinator's finger.

In the event of self-injection with fish vaccine, there is a theoretical risk of anaphylactic shock which, if it occurs, will require immediate treatment according to standard guidelines.

Any suspected cases of anaphylaxis must be fully investigated and reported afterwards.

In cases of self-injection in which some or the entire dose has been injected, it is the concentration of mineral oil which is the critical factor. Oils used as adjuvants in fish vaccines contain powerful tissue toxins and without surgical intervention (incision and irrigation, etc.) may result in necrosis and subsequent amputation. **For this reason it is important that all cases of vaccine self-injection are urgently examined by an experienced surgeon.**

In addition to the local reaction at the site of injection, the vaccinator may also experience local pain and oedema, lymphangitis and lymphadenitis of the arm, accompanied by nausea, vomiting and a high temperature.

Antibiotics and anti-inflammatory drugs are insufficient as exclusive treatments in such cases. The finger must be examined by a surgeon! An anti-tetanus injection is not required.

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