• Unwanted, adverse reactions to fish or seafood can be caused by toxic reactions (that will occur in everyone eating that food), non allergic hypersensitivity reactions (intolerances) or true food allergy (see food allergy).

• A food allergy is a hypersensitivity reaction that involves the immune system (see what is an allergy). Although up to 20-30% of people believe they have a food allergy, studies show that between 2% and 5% of people suffer from a definite food allergy.

• Food allergy can range from mild reactions to severe, life threatening (anaphylactic) reactions and can occur even with tiny doses.

• The immune system of people with food allergy produces allergy antibodies (IgE) which cause the release of histamine and other harmful substances when the food is eaten.

FISH

• Fish and seafood are an important part of the human diet around the world. Many people are trying to eat healthier and are reducing the meat they eat and eating fish instead.

• In Southern Africa there are over 2 000 different species of fish.

• If you are allergic to fish, you are not necessarily allergic to all seafood.

Seafood is the broad term used to describe 2 groups of sea animals:

• **Crustaceans**  prawns, shrimp, rock lobster (crayfish).

• **Molluscs**  mussels, oysters, squid, calamari and octopus.

If you are allergic to crustaceans, you are not necessarily allergic to molluscs, and vice versa. People with fish / seafood allergy do not have “iodine allergy”!
WHAT ARE THE SYMPTOMS OF FISH / SEAFOOD ALLERGY?

- Allergy to seafood / fish could result in almost any allergy symptoms and sign, but some are more common than others.
- Common symptoms include skin rashes, swelling, nausea and vomiting. Severe reactions may cause breathing difficulty and collapse.
- Chest symptoms may occur in very allergic people who inhale fumes from cooked or braaied fish. Most symptoms develop within 2 hours after eating, smelling or handling fish.

HOW COMMON IS SEAFOOD ALLERGY?

Seafood / fish allergy is more common in adults than children. Children with fish / seafood allergy are less likely to outgrow their allergy than children with milk or egg allergy.

OTHER ADVERSE REACTIONS TO FISH

- Sometimes it can be difficult to work out whether a person has had allergy to fish or another non-allergic reaction e.g. caused by fish poisoning.
- **Scromboid Fish Poisoning** occurs when people eat spoiled fish, when fish is not kept cool enough or spends some time out of a fridge. Fish that have brown meat are often involved such as yellowtail, tuna and mackerel. Symptoms look similar to an allergy ... flushing, sweating, headache, nausea, vomiting, diarrhoea and hives occurring within 1-2 hours after eating the fish.
- **Ciguatera Fish Poisoning** occurs when people eat reef fish in tropical and subtropical waters, such as found north of the Natal Coast. Symptoms include tingling of the hands and feet, low heart rate and drop of blood pressure.
- Allergic reactions have been described in people eating fish contaminated with a small parasitic worm called Anisakis. These allergy-like symptoms are mostly reported after eating raw or undercooked fish, and are caused by an allergy to the parasite which is in the flesh of the fish. It is easily diagnosed by a simple blood test. In South Africa, Snoek is most commonly contaminated with Anisakis.
HOW IS FISH ALLERGY DIAGNOSED?

• The first step is for the doctor to hear all the details about what was eaten and exactly what reactions occurred. This will help indicate whether the reaction was an allergy or a toxic reaction.

• For suspected allergies, blood test and/or skin prick tests can be done to show the presence of the IgE antibodies. If these tests are negative an immediate type allergy is almost always ruled out. A “positive” result supports, but does not prove an immediate type food allergy, unless the values are very high.

• Skin prick tests are done by placing a few drops of specially manufactured fish extract on the skin and making a prick through the droplet (see “Skin prick testing”).

• In cases which are uncertain, the allergist may recommend a supervised food challenge to test for fish allergy. This entails giving initially tiny, then increasing amounts of fish to the person in a controlled setting (see “Oral food challenge tests”).

MANAGEMENT

• If you allergic to fish or seafood, you must avoid eating those foods altogether.

• Avoid any possible direct or indirect exposure to the offending fish including handling or inhaling cooking vapours.

• Parents should read food labels and recognize terms that may indicate the presence of fish.

• Take care when eating out, as your meal may be contaminated with fish (e.g. French fries and fish prepared in the same oil).

• Avoiding foods is difficult! A dietician experienced in managing food allergy will provide advice, recipes and education on how to achieve a nutritious and complete diet.

EMERGENCY TREATMENT

• Fish may be difficult to avoid completely and accidental reactions do occur.

• Caregivers in schools, family members and friends should know about the allergy and what to do in an emergency. A detailed “action plan” should be provided in case of reactions.
This should clearly describe the difference between mild and severe reactions as well as what to do if different types of reactions occur. The action plan should be highly visible at home and in the school/work environment.

• The patient should have access to their emergency treatment at all times. For milder reactions an anti-histamine may be enough. For severe reactions, injectable adrenaline will be needed.

• The allergy doctor should decide on whether a person with allergy is at risk to have a severe reaction. People with previous severe reactions or at risk of severe reactions should carry injectable adrenaline with them at all time, preferably in the form of an auto-injector.

• People who have been prescribed an autoinjector must be trained when and how to use it and carry it with him/her at all times.

• Fish allergic individuals should wear a Medic alert or similar bracelet, especially if they have a severe allergy or also have asthma.

WILL THE FISH ALLERGY BE OUTGROWN?

• Children with fish / seafood allergy are less likely to outgrow their allergy than children with milk or egg allergy.

• Children with fish allergy should see their allergy doctor regularly to check their growth and nutrition and to make sure they are managing to avoid the food and are able to treat any accidents correctly.

• The allergy doctor will monitor the allergy one to two yearly either by skin prick or blood test. If those tests indicate that the allergy may have been outgrown then you (or your child) may be brought into hospital or clinic as a day case for a fish challenge.

• A fish challenge is a supervised procedure in which increasing doses of fish will be fed to the patient under close observation to check for reactions. Such a fish challenge is used to decide if tolerance has developed and if that the person is no longer allergic to fish (see food challenge tests).