



## Blood Sampling Standard Operating Procedure

Revised December 2005

This procedure was taken from the Aquatic Animal Diseases Lab Manual by Dr Hugh Ferguson.

All fish are anaesthetized prior to blood sampling.

Place **anaesthetized** fish on a "V" board fish holder or have an assistant hold fish ventral side up. The board should be clean and moist, do not place absorbent material in contact with the fish as skin damage may occur. Use of 22 Ga. hypodermic needles are recommended for larger fish. Smaller gauge needles (upwards of 22 Ga.) Are recommended for smaller fish.

Blood may be sampled following four separate procedures: dorsal aorta, cardiac puncture, caudal vein, and caudal severance. Of the three sampling methods the caudal vein is the preferred method for salmonids.

**Caudal vein:** The sample is taken midline just posterior of the anal fin. Insert the needle into the musculature perpendicular to the ventral surface of the fish until the spine is reached or blood enters the syringe. If contact with the spine is made withdraw the needle slightly. The vein is ventral to the overlying spine. This blood vessel can also be sampled laterally.

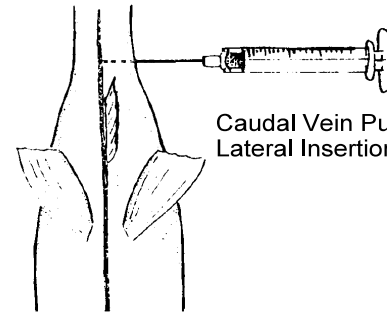
**Dorsal Aorta:** Insert needle on a 30-40° angle into the dorsal midline in the roof of the mouth at about the 3<sup>rd</sup> to 4<sup>th</sup> gill arch. Depending upon size and species of fish insertion between the 1<sup>st</sup> and 2<sup>nd</sup> arch may be more suitable. Recovering fish tend to bleed at the mouth. This site may be used for indwelling catheterization.

**Cardiac Puncture:** Blood is collected from the heart ventricle. Insert needle perpendicular to the ventral surface of the fish in the centre of an imaginary line between the anterior most part of the base of the pectoral fins.

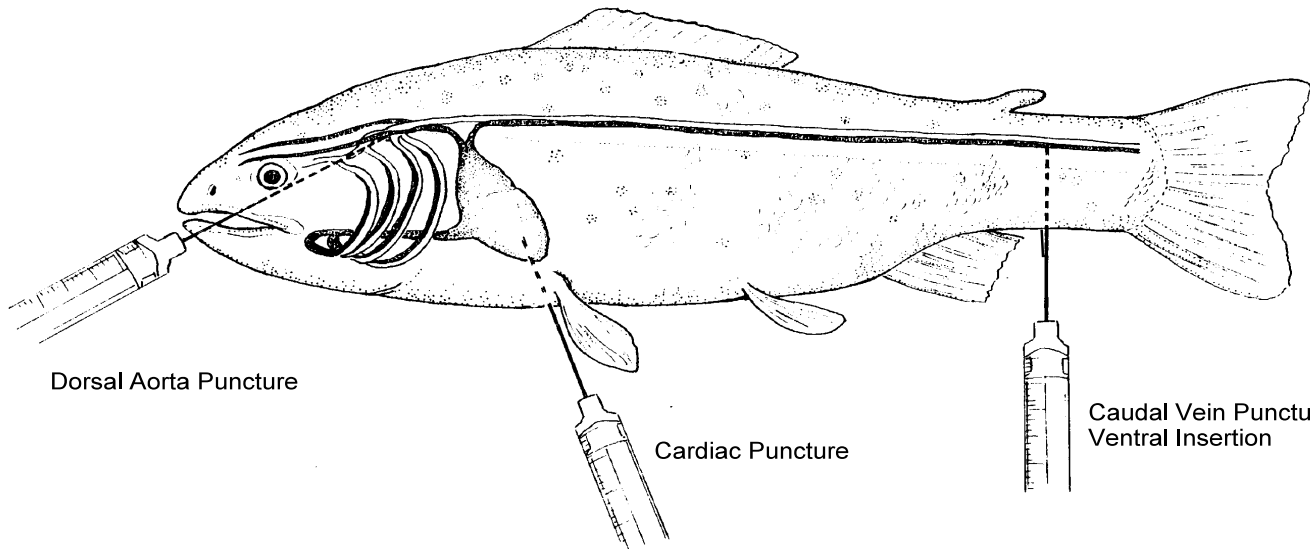
**Caudal Severance:** Dry the caudal peduncle. Completely sever the tail posterior to the anal fin. The first few drops are discarded, the rest is collected in microhematocrit tubules. After the sample is collected return the fish to a separate container of anaesthetic for euthanasia.

# Blood Sampling in Salmonid Fish

Taken from 73-410 Diseases of Aquatic Animals Lab Manual



Caudal Vein Puncture  
Lateral Insertion



Dorsal Aorta Puncture

Cardiac Puncture

Caudal Vein Puncture  
Ventral Insertion