

# Manufacturing Process of Classical Acupuncture Needles (since the Ancient Period of Edo)

## I. Introduction

Thin needles commonly used in the Japanese acupuncture have been manufactured since the Edo Period up to the present. Attitude toward sanitary affairs, however, changed over time and the method of needle manufacturing maintained since the Edo Period was forced to undergo changes. Moreover, with the end of the Edo culture that supported the technique of needle manufacturing, manufacturers of long standing have faced difficulty finding successors. This report will introduce the manufacturing process of acupuncture needles that has been handed down to the present from the Edo Period. In preparing the report, Aoki Jitui Shouten, which has a history of 140 years in manufacturing acupuncture needles since the end of the Edo era, provided cooperation.

## II. Manufacturing process of needles

### 1. Needle handle

The manufacturing method of needle handles underwent a great change. Many years ago, handles were all made of processed pure silver. To make a handle, a pipe was made with a block or ingot of pure silver (Photos 1 and 2), which was processed into a shape of plate (Photo 3), and then passed through a die (Photo 4). A die is a modern tool. Many years ago, a tool with equivalent functions was made uniquely using the same material as the one used for Japanese swords (Photos 5 and 6). Patterns were elaborately handcrafted on a handle which was very time consuming for the artist (Photo 7). Presently, seamless pipes of stainless steel or brass are manufactured and these are processed to make handles (Photo 8).

### 2. Needle body

A needle body is the most important part of a needle, but there were almost no changes made in its manufacturing method. Or rather this is the part for which manufacturers do not want to make alterations. This section will mainly describe the manufacturing process of a silver needle (for a gold needle, the process is almost identical). A needle made of pure silver is too soft to prick the skin skillfully, and when pricking the skin, the needle gets bent in the guide tube and its tip does not adequately cleave the skin to get into. To give hardness, different metals are blended. Alloy composition with

copper, or brass, or others depend on manufacturers. Metals are mixed by an electrical furnace, whereas it was done by an air blasting unit called Fuigo (Photo 9) many years ago.

As a first step, a thick cylindrical block is made, and then it is extended by little by little. It is not shaved off, but stretched thinly (Photos 10 & 11). At the initial stage, a machine is used, but when the silver alloy becomes a certain diameter, the machine is stopped and a craft-man extends it manually with a pair of pliers. This process is absolutely necessary and it is in this process to get rid of something bad, which requires technical skills of the craft-man. The tool used is a diamond die (a hole is made in the center of the diamond) (Photo 12). In the early days, diamonds were not available, so the tool with a narrow hole as in Photo 5 and Photo 6 was used. A piece of silver alloy is elongated to the required diameter, which is cut to the specified gauge, and pressed to attach to the handle.

Initially, materials used to make the body were gold, silver and iron in old days, whereas gold, silver and stainless steel are now used. Iron rusts easily, so since the development of stainless steel, iron has been replaced with stainless steel.

### 3. Attachment of a handle to a body

A handle and a body are attached by presswork, but it was done so by soldering in the past. A piece of solder alloy with unique blending was made in a plate shape (Photo 13) and cut thinly, and then the thinly cut solder was run into a heated pipe in which the body was placed and attached after cooling. The autoclave popularity created a thermal problem in soldering and the calking technique by presswork is now employed.

### 4. Needle tip

In the early days, natural whetstone was used to grind the tip (Photo 14). At present, the tip is sharpened on a whetstone attached to the grinder. A tip sharpening process can be finished in four steps. This is the most difficult process and challenging to the craftsman. There are reasons why this process is used. Aoki Jitui Shouten produces needles that are used in a guide tube ("pine needle type") and needles as "nenshin" that do not use a guide tube ("willow leave type"). The tips of these two types of needles have quite different shapes. There are demands from clinicians that the tip should be made more round ("oval type"), or that they need more sharp-pointed tips (sharp-pointed tip, "noge type") and

the Jitui Shouten is responding to their requirements. However, only manual work can fully satisfy their requirements as described above. What makes the biggest difference between automated production and manual production is this process.

### 5. Needle guide tube

In the early years, a guide tube was made through the process of hammering a piece of pure silver plate to a round tube. To make a square guide tube, edges of the plate were rasped off to make it octagon. At present, a guide tube is produced by pulling a tube from a die specially made for the purpose (Photo 15 & 16). Materials used are three kinds of metals, gold (20K), pure silver, and stainless steel (Photo 17).

### III. Summary

The manufacturing process described above is highly appraised among clinicians as the manual technique for making needles by a craftsman, rather than the method of making needles mechanically. Aoki Jitui Shouten has more orders received for needles of silver than those of stainless steel. There are two types of needles available for selection in Japan of today: less expensive needles and more expensive needles produced according to the requirement of clinicians. Less expensive needles have one disadvantage in that clinicians have to carefully pre-sterilize the needles and dispose them once used.

Photo 1



Photo 2



Photo 3



Photo 4



Photo 5



Photo 6



Photo 7



Photo 8



Photo 9



Photo 10



Photo 11



Photo 12



Photo 13



Photo 14



Photo 15



Photo 16



Photo 17



(Contents and photos provided by Aoki Jitsui Shoten)