

## A Podcast Guided Tour of Naval Medical Research Institute

Leave the traditional guided tours behind and strike out at your own pace with an audio guide. This bilingual podcast is presented by Shanghai Daily and supervised by the Shanghai Science and Technology Committee.

When you think of the sea, what words come to mind? "Boundless," beautiful, "unpredictable?" Don't forget what may be the ultimate description, "mysterious." Our knowledge of the sea is the tip of an iceberg, a drop in the ocean, but our podcast guide will help you learn how naval medicine has made sea adventures safer for mankind.

**The institute's exhibition room is on the 12th floor of the white building.**

Upon entering the room, you'll see two pictures on your left. They were taken when premier Zhou Enlai inspected the institute in 1963 and former President Jiang Zeming visited in 1989.

The first section traces the institute's early history. Originally known as the Naval Medical Services Institute, it was founded in Beijing in 1954. It moved to Shanghai in 1959 and was renamed the Naval Medical Research Institute.

The second section displays awards and trophies given to the institute by the government and military.

The third section introduces sea rescue equipment. It includes the navigational system that helps rescuers spot missing people, the rescue baskets and ropes that pull survivors from the sea, and devices used to help raise their body temperatures back to normal.

Here's a picture of a modular medical ship, a floating hospital. It looks like a container ship and has all the necessary medical equipment and technology. By arranging the containers, which serve as medical units, on an ordinary ship, with the help of a crane, medical facilities can be provided. Those rescued at sea can be treated, accidental injuries and burns can be treated, and operations can be performed.

The fourth section covers navy gear and food services.

Life at sea is hard work under adverse conditions such as heat, cold, noise, high humidity and storms. But sailors are prepared. Their uniforms are light, warm and moisture-proof. Their earplugs reduce noise. In submarines, they wear radiation-proof clothes and are equipped with gas detectors.

As to food, sailors can enjoy nutritious food during long voyages. Chinese scientists have invented convenience foods that can be stored safely for up to a couple of months and still retain their delicate flavors.

At the end of the room, there are photos of the institute's well-known experts and former directors.

Go to the cabin at the center of the room and you can watch videos about naval medicine.

**Take a rest and then we'll visit three science laboratories.**

**Located behind the main white building** is China's only laboratory that can simulate the living and working environment of sealed chambers on naval vessels. It tests how human bodies will respond when living under airtight, pressurized, conditions, such as those on submarines.

**Next, we'll walk to the training center for saturation diving -- opposite the main white building.**

Here's a yellow tank. It is a saturation diving system that can simulate underwater conditions. At most it can create pressure equal to that at a depth of 500 meters.

Feel mixed-up? Saturation diving is a special technique that allows nearly unlimited time to work underwater, as in vessel salvage, scientific research and other undertakings.

As we all know, deep sea diving is risky. Water pressure gets greater the deeper you dive. If you stay at deep levels for a long time, the pressure of water will make the inert gases, especially nitrogen in your lungs, dissolve into your blood and tissues.

Normally, a diver can only remain for a very short period at great depths. Otherwise he or she runs the risk of developing decompression illness, known as "the bends," a painful condition caused when the dissolved nitrogen turns back to gas and bubbles form in the body and joints. This can be fatal. So deep diving requires a slow and careful ascent.

Saturation diving exposes divers to a high-pressure situation for more than 24 hours, thus, the inert gases in their blood and tissues become equal to the amount in their lungs -- causing what is known as saturation. Once saturation has been reached, the time required for decompression will be the same, no matter how long the diver stays at that depth, whether it be a minute, an hour, a day or a week.

**Our last stop is the training center for fast buoyancy ascent escape.** It is at the far end of the main road and near the back entrance to the institute. See the tall blue tower? That's where the escapes are practiced.

Submarine accidents often lead to heavy casualties. For example, an explosion occurred

on Russian submarine K-141 Kursk and killed all the 118 sailors aboard in 2000. In view of this, scientists are exploring ways to help submarine crews escape in emergencies. The buoyant ascent method is a feasible solution.

This is how it works:

Sailors put on special suits and enter a torpedo tube. There they go through a pressure-adjusting process to avoid decompression sickness. Finally, they are launched to the sea surface by the torpedo tube at high speeds and rise to the surface in a moment.

We hope you enjoyed your visit to the Naval Medical Research Institute.

Address: No. 880 Xiangyin Road, Yangpu District.

Only group visits with advance notice will be received.

To get there, you can take buses No. 55, 59, 133, 139 and 812.

For details, call the institute at 5166-7014 or 6549-1396.