

TURTLE TREATMENT

Each autumn, the New England Aquarium's marine animal rehab centre helps 80–100 sea turtles with dangerously low body temperatures. Check out the techniques used at this 'turtle hospital' to treat the shelled patients...

AN INSIDE LOOK

Upon arrival, turtles are X-rayed and their heart rates are measured with a heart monitor.

X-ray of Biscuits' skull

SOUND HEALTH

Vets sometimes use **ultrasound** to help them find out if turtles have internal injuries. The instrument sends sound waves into a turtle's body and records data about how the sounds echo off tissue and internal organs. The data is used to create images of the turtle's insides.

STRESS TESTS

Just like many other animals (including humans) turtles produce certain hormones, or chemicals, when they're stressed. The hospital measures these hormones in the bloodstream of certain cold-stunned turtles to find out their stress levels.

LASER THERAPY

Staff may beam a special laser into an injured turtle's body to help it heal. The laser stimulates the animal's blood flow and prompts its cells to start repairing damaged areas.

STROKE OF LUCK

Very weak cold-stunned patients are initially kept in comfy crates instead of water tanks. Every day they take a dip in **paddling pools** filled with only a few inches of H₂O so they can safely practise their strokes. After several 'workouts' the turtles are usually ready to enter the larger tanks.



It takes a group of caretakers to lift Biscuits into her pool at the New England Aquarium's rehab centre

SHELL-SHOCKED

At the New England Aquarium's marine animal rehabilitation centre, staff give the loggerhead a check-up and a name – **Biscuits!** The turtle, thought to be around 20 years old, weighs in at 75kg – normal for an adult male but slightly underweight for a loggerhead of Biscuits' age. The exam shows that Biscuits is really not well. The freezing seawater damaged the turtle's skin, causing her to develop open wounds. She's **dehydrated** and an X-ray shows that she also has **pneumonia**.

But the rehab team's most pressing concern is that Biscuits has been **cold-stunned**. This is a condition that affects reptiles if their temperatures drop too low. As their bodies cool, the animals' blood circulation slows. The limited blood flow causes the animals to go into shock. They enter a coma-like state, practically unable to move.

Biscuits is one of hundreds of sea turtles that become cold-stunned in Cape Cod Bay each year. Now her caretakers' goal is to raise her body temperature

from an extremely low 8°C to between 21°C and 26°C. But it won't be easy.

"We have to heat up the turtle very gradually," says Adam Kennedy, a biologist at the aquarium. "Warming her too quickly could be just as deadly as not warming her at all." A six-person team lifts Biscuits into a 1.5-m-long, **temperature-controlled** pool set to 12.8°C. Each day the rehabilitation team raises the thermostat by about 3°C.

As the temperature rises, Biscuits begins to move normally again.

To help her regain energy, the staff offer healthy meals of **fish and squid**. At first she won't eat a bite of the grub. But after three days the loggerhead starts nibbling on the food she's given. To rehydrate the animal, the rehab team give her daily injections of **nutrient-filled fluids**. Biscuits also receives **antibiotics** for her pneumonia and a **soothing ointment** for her wounded skin. "She looks much better, and you can tell she feels better too," Adam says.

TURTLE TAKEOFF

By the time the water hits 24°C, Biscuits can be moved into the larger rehab tank. Soon she's swimming slow, graceful laps in her 7-m-long pool. Adam is thrilled by her progress but not that surprised. "We call loggerheads 'tanks' because they're such tough animals," he says. "Biscuits' shows just how resilient they are."

But the turtle's rehab isn't finished yet. Now that she's stable, the team will send her to the **Georgia Sea Turtle Center** on Jekyll Island, Georgia, which is located closer to her release site. Here the staff will continue to prepare her for re-entry into the wild.

Two and a half months after her rescue, aquarium staff load Biscuits into a cushioned crate and place her in a heated van. Then she's driven with three other recovering turtles to a small airport where they will take off for Georgia. To make the turtles' trip as quick and stress free as possible, a pilot has volunteered to fly them down in a private jet!

After the nearly three-hour flight, Biscuits and the other turtles are transported to the centre. Biscuits is placed in a circular tank, 3m in diameter, where she can continue practising her swimming strokes. The loggerhead is fed a steady diet of fish, squid, and shrimp, which staff scatter around the tank. Caretakers also put **live blue crabs** and



horseshoe crabs in her tank so she can get used to catching prey again. These critters are some of a loggerhead's favourite foods in the wild. Biscuits quickly remembers how to snatch up the tasty treats in her tank, though she leaves a bit of a mess after a meal. "She's clearly enjoying these familiar snacks!" says **Terry Norton**, head of the centre.

A single loggerhead's shell can be home to as many as 100 tiny plants and animals.

BACK TO THE SEA

A month later Terry decides Biscuits is ready to return to the ocean. She's heavier, now weighing nearly 82kg, and has proved she can catch live prey. Terry and a team of rehabbers drive Biscuits about 140km south to Little Talbot State Park in Florida. Arriving at the release site, Biscuits becomes more active, moving around in her crate. It's almost as if she senses that she's close to home. "I think she can smell the ocean!" Terry says. When the team lowers her onto the sand at the water's edge, she immediately crawls into the crashing waves and swims away.

Thanks to the help of **hundreds** of amazing animal lovers from across the USA – many of them volunteers – the tough turtle has made a full recovery. "It's an amazing sight," says Terry. "Everything we do is for this moment – when a rescued animal gets back to the wild."

Biscuits returns to the sea



DID YOU KNOW...?

Loggerhead turtles may live for 50 years or more in the wild, but only about one in 4,000 hatchlings reaches adulthood!