

TREATMENT FOR DECOMPRESSION ILLNESS AT KAWASHIMA ORTHOPAEDIC HOSPITAL

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Outline of the Decompression illness(DCI)

Period: 1981-2012

Total cases: 515 cases

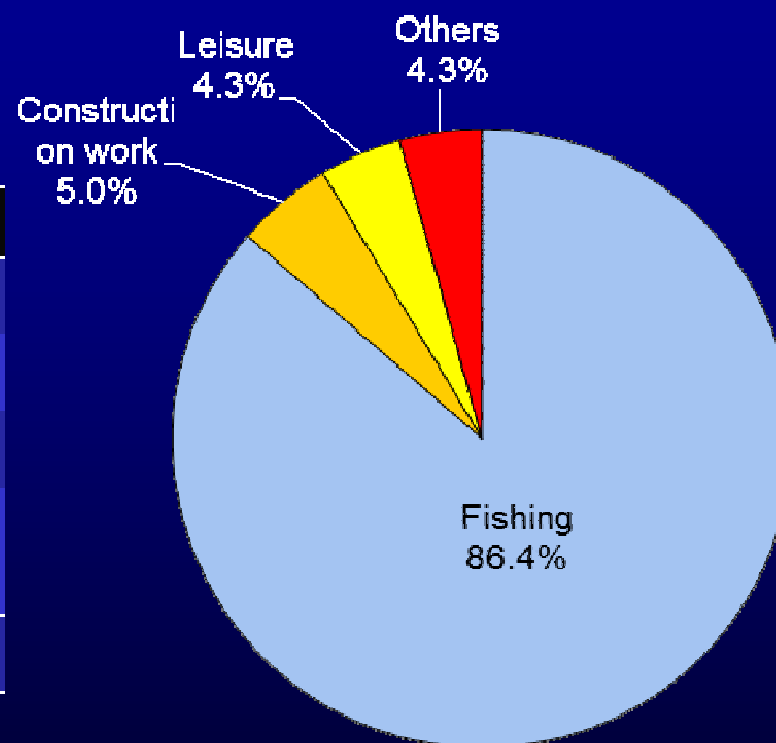
Male: 509 Female: 6

Age: 17-76 years old
(Average)36.2



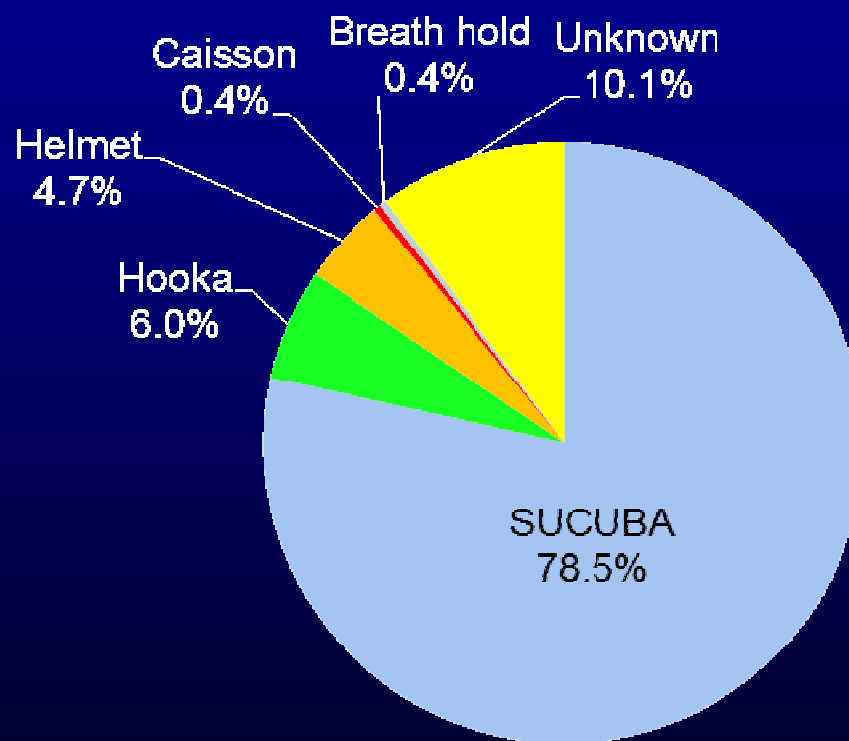
The purpose of diving

Purpose of diving	Diving	Caisson
Fishing	443	
Construction work	26	2
Leisure diving	22	
Others (Investigation, Machine maintenance, etc)	22	
	513	2



Diving Methods

Diving methods	
Diving	513
SUCUBA	405
Hooka	31
Helmet	24
Breath hold	1
Unknown	52
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Caisson	2



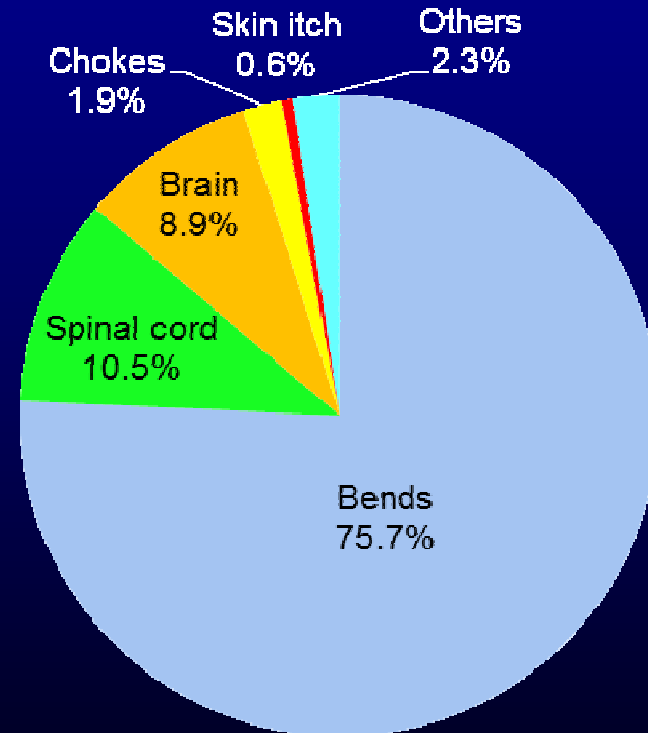


DCI Type



Type of DCI

Limb Bends	390
Spinal cord	54
Brain	46
Chokes	10
Skin itch	3
Others	12

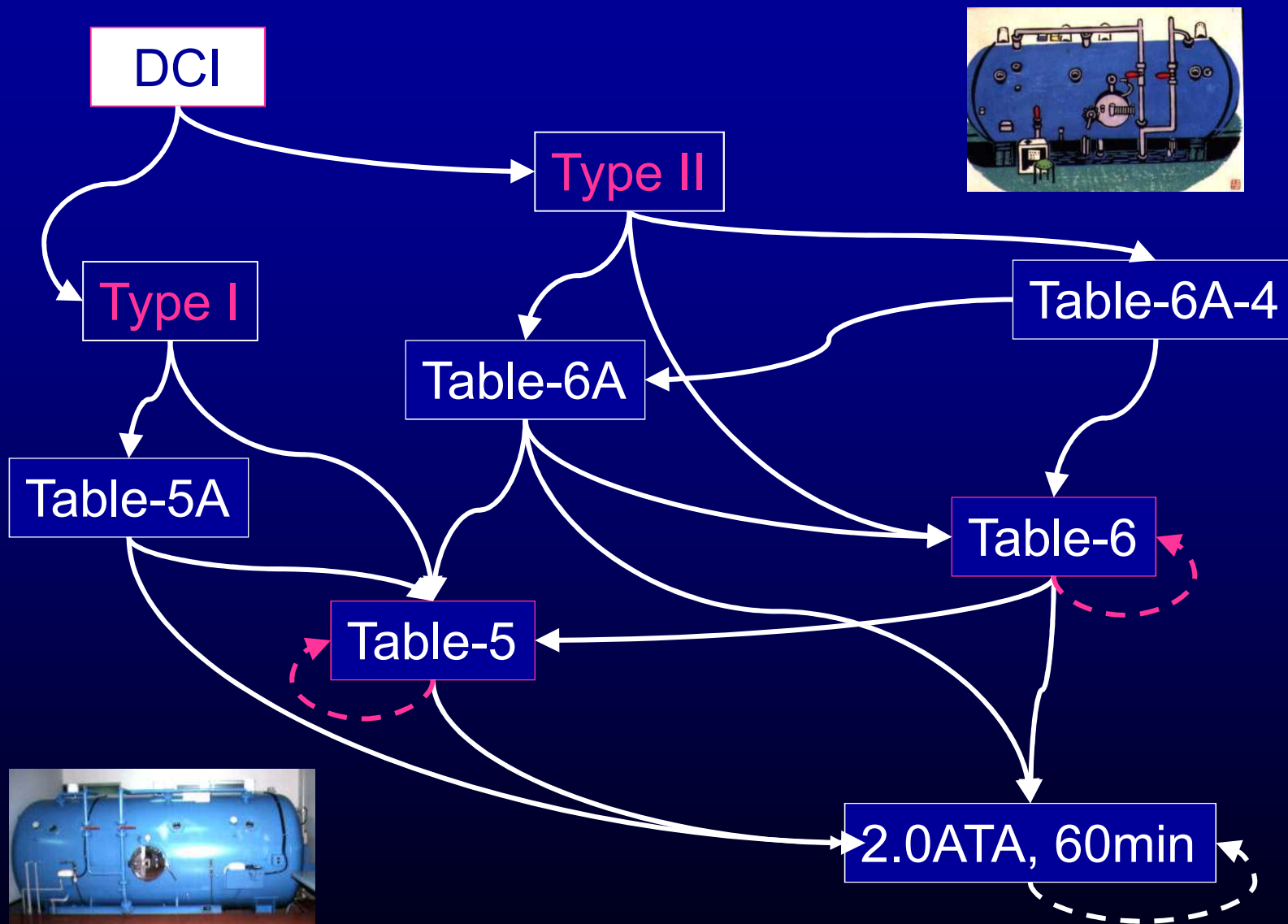


Treatment for DCI

- **Recompression therapy**
 - U.S. Navy table (Ttable-5A, 5, 6A, 6)
 - Tokyo Medical and Dental University
Mano Table
- **Medication**
 - Hydrocortisone
 - Anticoagulant
 - Transfusion



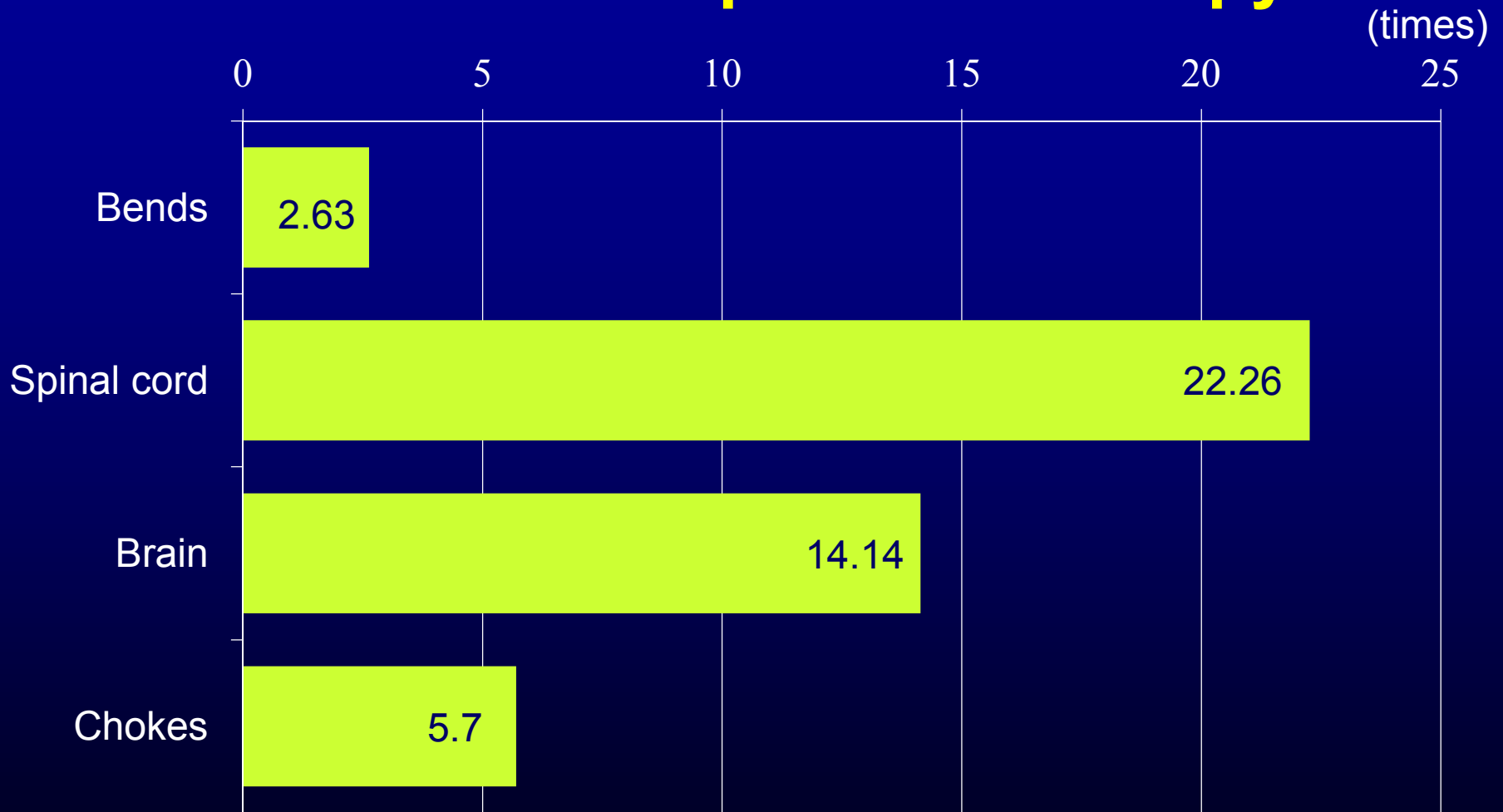
Selection of the recompression therapy table



The treatment results according to DCI type



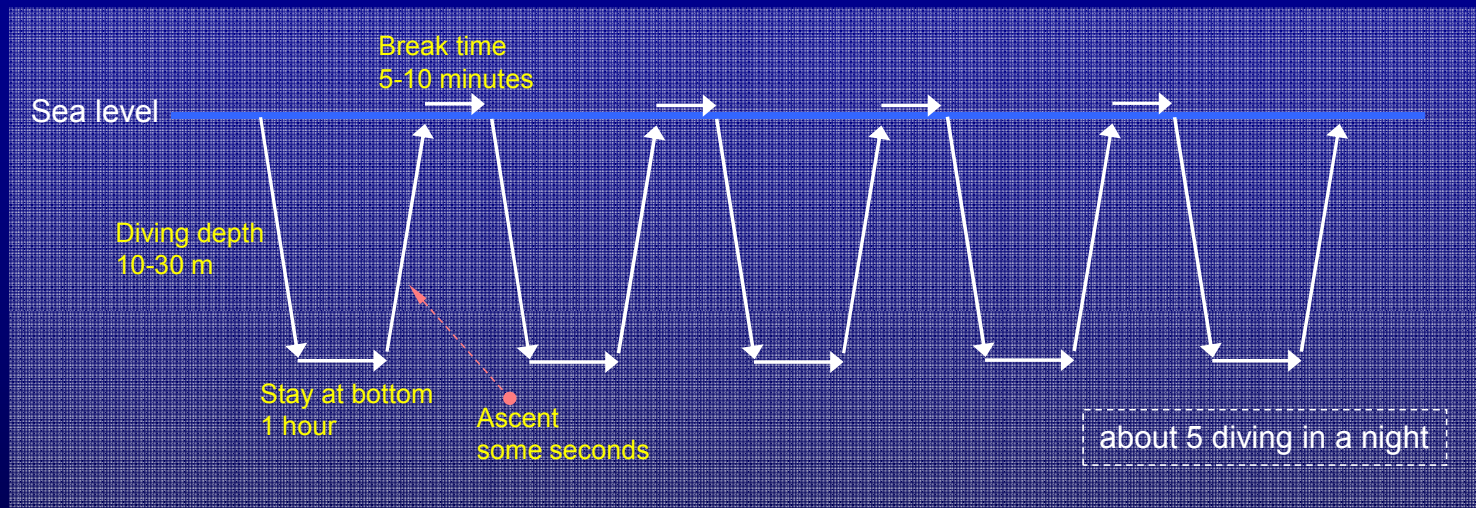
The average treatment number of times of recompression therapy



The problems about DCI treatment and diving circumstance in Japan

1. Many diving fishermen think lightly of DCI

Typical diving patterns of fishing divers



- Most of fishing divers dive according to their own experience without suitable procedure.
- Most of them don't intend changing their diving style, even if they got DCI many time. A lot of them came to our hospital as the DCI frequently. The most frequent diver came to our hospital is 16 times!

The problems about DCI treatment and diving circumstance in Japan

2. The expense of the recompression therapy is too low in Japan

Recompression therapy --- ¥60,000 (\$600) within 7 days

- The recompression therapy require at least 3 hours.
- In some cases, it takes 6 hours or 12hours.
- The treatment expense is the standard amount regardless of treatment pressure and time.

Treatment expense of the Table-6*

Japan	¥60,000	\$580
U.S.A	¥873,600	\$8480
Sweden	¥978,000	\$9490
Italy	¥56,711	\$550
Malaysia	¥456,400-521,600	\$4430-5060
Indonesia	¥6,900	\$70

In many countries, the treatment expense is paid by the correspond with treatment time.

\$20 after 7 days!

*Kiyotaka Koushi: International comparison of approved indications for hyperbaric oxygen therapy and their charges, The Japanese Journal of Hyperbaric and Undersea Medicine, 2009, 40(4), 205-217

The problems about DCI treatment and diving circumstance in Japan

3. The number of multiplace chamber is not enough.

- The working multiplace chamber in Japan is 49.
- There is deflection depends on area.
- Therefore, in some case DCI patient have to travel to far for recompression therapy.
- Moreover, several facilities abolished having multiplace chambers in these days because of economical reason.



Conclusions



- We treated 515 DCI cases from 1981 to March 2013. The most of them were fishermen from the Kyushu Island. The most common DCI type was “the bends”.
- We treated them using the U.S. Navy table and the Tokyo Medical & Dental University Table.
- The treatment results were “Good” 94%, “Improved” 5.6%, and “Failed” 0.4%.