

## Brief communication

### Introduction of the helicopter carrier destroyer Izumo and its potential utility as a hospital ship

Youichi Yanagawa MD.PhD., Hiroki Nagasawa MD., Ikuto Takeuchi MD., Shunsuke Madokoro MD., Kei Jitsuiki MD., Yasuyuki Yamamoto Logi, Morohiro Ishibashi Logi., Kouhei Ishikawa MD.PhD., Kazuhiko Omori MD.PhD., Hiromichi Osaka MD.PhD.

Shizuoka Medical Research Center for Disaster, Juntendo University

Corresponding author: Youichi Yanagawa

1129 Nagaoka, Izunokuni City, Shizuoka, Japan, 410-2295

Tel: 055-948-3111 E-mail: akondo069@gmail.com

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#### Abstract

The helicopter carrier destroyer Izumo weighs approximately 6,000 tons and is 248 m long, 38 m wide at maximum, 49 m tall, and has an approximate maximum speed of 55 km/h. The flight deck has five helicopter landing spots that allow for simultaneous landings or take-offs. The Izumo has an integrated network system concerning information and communication, excellent abilities concerning the manipulation of multiple helicopters, a large-scale hangar that can accommodate multiple severely injured patients, an emergency and intensive-care room to perform resuscitation, a surgical operating room to perform life-saving radical procedures, and 34 beds for patients. The helicopter carrier destroyer Izumo may therefore be useful as a hospital ship if a catastrophic disaster occurs.

**Key words:** destroyer; hospital ship; military civilian cooperation

#### 1. Introduction

Japan is located at the junction of four continental plates (North American, Eurasian, Philippine Sea and Pacific), and earthquakes frequently occur in the vicinity. The Japanese government estimated the damage that would occur from a huge Nankai Trough earthquake in the Pacific Ocean, which has historically occurred several times in Japan and is predicted to occur again in the near future.<sup>1</sup> The worst-case scenario for such a huge Nankai Trough earthquake would be for a magnitude 9-class quake to hit the central and western parts of Japan, followed by the generation of a massive tsunami along the Pacific coast. This earthquake could lead to as many as 323,000 deaths. The medical facilities located on the Pacific coast were also expected to be completely destroyed.<sup>1</sup> However, Japan does not currently have hospital ships like the United States Navy. The Izumo is a helicopter carrier destroyer and the largest vessel of the Japanese Navy. This destroyer may be useful as a hospital ship in the event that the medical facilities located on the Pacific coast sustain severe damage in the wake of a catastrophic disaster. We herein describe the potential utility of the helicopter carrier destroyer Izumo.

## 2. Helicopter Carrier Destroyer Izumo

The displacement of the helicopter carrier destroyer Izumo is approximately 6,000 tons, the length 248 m, the maximum width 38 m, the height 49 m, and the approximate maximum speed 55 km/h (**Figure 1**). This ship has a normal crew of 470 officers and men and is armed with 2 autocannons and 2 missile and torpedo defense devices. The flight deck has 5 helicopter landing spots that allow for simultaneous landings or take-offs. The Izumo has an integrated network system concerning information and communication, excellent abilities concerning the manipulation of multiple helicopters, a large-scale hangar that can accommodate multiple severely injured patients (**Figure 2**), an emergency and intensive-care room to perform resuscitation (**Figure 3**), a surgical operating room to perform life-saving radical procedures (**Figure 4**), and 34 beds for patients. A proto-type of the Izumo, the destroyer Ise, was used in training as a hospital ship by the Japanese government during a disaster drill, accommodating disaster medical assistance teams (DMATs) from all over Japan. The DMATs are mobile trained medical teams that can be rapidly deployed during the acute phase of a sudden-onset disaster.<sup>1</sup>

## 3. Discussion

A great earthquake followed by a tsunami could result in the isolation of many areas by roads being cut off due to landslides or debris. To rescue people stranded in these areas, training concerning road restoration, dispatching aircraft or ships for disaster relief, and establishing a system to ensure the quick delivery of relief via the sky and sea are important. In a catastrophic large-scale disaster, all substances and human are needed to obtain an early favorable outcome. The coordinated and combined use of military and civilian resources in response to large-scale natural disasters is beneficial and can significantly reduce human suffering.<sup>2</sup> The Japanese Government has already established a plan on how they will dispatch the Japanese military to disaster areas in the event of a huge Nankai Trough earthquake, similar to their preparations for Tokai earthquakes.<sup>3</sup>

## 4. Conclusion

The helicopter carrier destroyer Izumo may be useful as a hospital ship if a catastrophic disaster occurs.

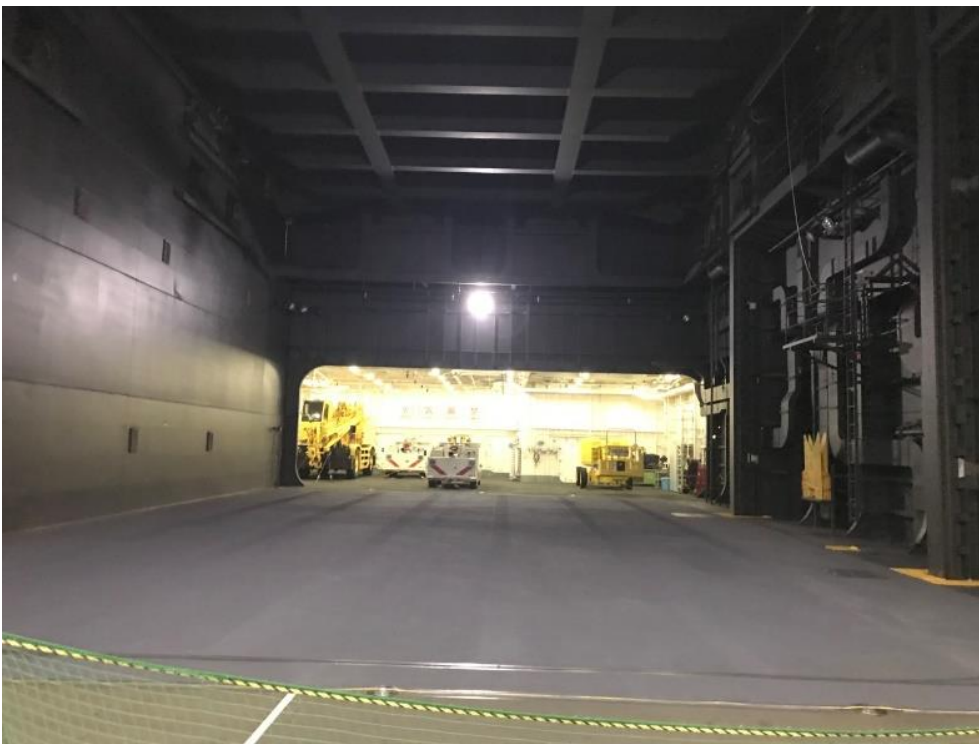
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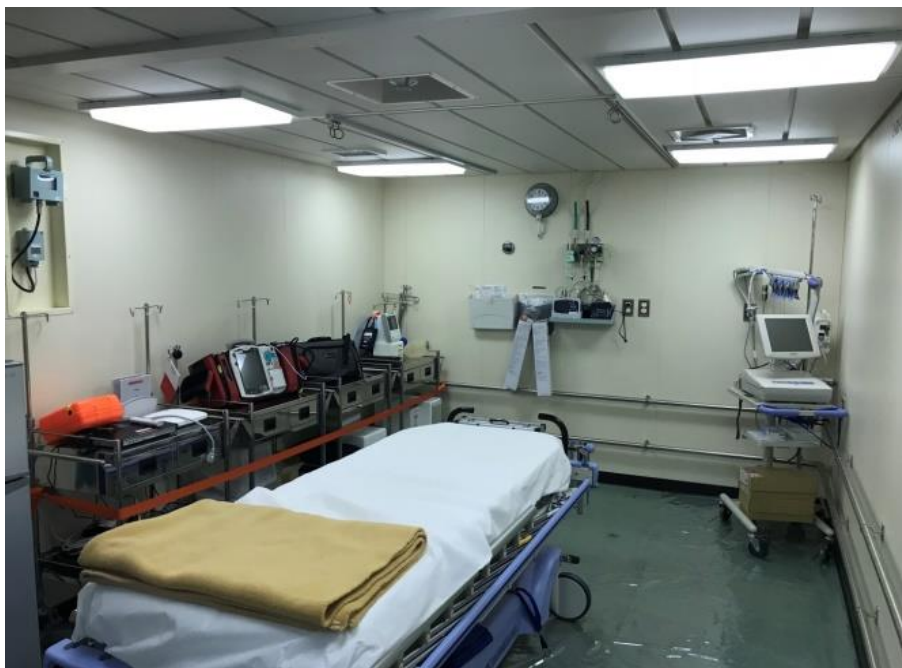
**Figure 1.**The helicopter carrier destroyer **Izumo** (provided by Maritime Self Defense Force Japan).This shipweighs approximately 6,000 tons and is 248 m long, 38 m wide at maximum, 49 m tall, and has an approximate maximum speed of 55 km/h.



**Figure 2.**The inside of the helicopter carrier destroyer **Izumo**.There is a large-scale hangar inside that can accommodate multiple severely injured patients.



**Figure 3.**The inside of the helicopter carrier destroyer Izumo. There is an emergency/intensive-care room where resuscitation can be performed.



**Figure 4.**The inside of the helicopter carrier destroyer Izumo. There is a surgical operating room to perform life-saving radical procedures.



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