

3.11.2011
The Great East Japan Earthquake

**THE BLOOD SERVICE RESPONSE TO
THE EARTHQUAKE DISASTER**

JAPANESE RED CROSS SOCIETY

Shiba-Daimon, Minatoku, Tokyo, 2013

Message from the President



Tadateru Konoe, President of the Japanese Red Cross Society, encourages the emergency team in Kamaishi City, Iwate.

(Field visits to the three Tohoku prefectures started on March 13, 2011.
This photo was taken on March 14, 2011, at 1:30 p.m.)

The blood program exists only because of the generosity of voluntary unpaid blood donors. The delivery of blood products is a life-or-death matter for patients, and one of our most important services.

As far as blood programs go in Japan, every aspect of the service from collection to supply is handled exclusively by the Japanese Red Cross Society (JRCS). The Japanese Red Cross Society acts in accordance with the “Law on Securing a Stable Supply of Safe Blood Products” and other related national laws and regulations. Our mission is to ensure and enhance the safety of blood products, secure their stable supply, and protect the donors.

Japan is a disaster-prone country, frequently bearing the brunt of typhoons and earthquakes. Considering the essential role that the securing and supplying of blood products plays in a comprehensive relief operation, we feel that it behooves us to have a certain sense of urgency about disasters even in peacetime, and plan a response in our day-to-day work.

At the JRCS, we have long worked to prevent situations that would hamper blood center operations during disasters and keep any losses to a minimum, through disaster preparedness including the preparation of crisis control manuals.

It was in this context that the country was struck by a magnitude 9.0 earthquake at 2:46 pm, March 11, 2011. The event triggered a nuclear accident, which is a complication Japan has never faced before. In the midst of this, the JRCS Blood Service Headquarters gave its all to secure and supply blood products.

This booklet looks at how the Blood Service Headquarters and the blood centers in the affected areas actually responded to this crisis.

As previously noted, the JRCS handles everything from blood collection and testing to processing and supply. Therefore, our ability to launch a nationwide undertaking in coordination with the Blood Service Headquarters and blood centers around the country should simply be looked at as one case study. At the same time, we can all agree that securing and supplying of blood products is a necessity in any country at a time of disaster.

For example, we had a supply shortfall in disaster-affected areas due to local blood centers losing their donation-intake capacity. We dealt with this by increasing collection by 20% at blood centers outside the disaster area. We also maintained a stable supply, in excess of the standard supply level for red blood cell products (the equivalent of three days' supply for medical institutions) within the nationwide blood center network.

On the other hand, our attempts to gather information in the immediate aftermath of the earthquake were hampered by factors including a total loss of function by medical institutions in the affected areas, which led to an inability to mount a suitable response as a result of the lack of necessary information. We were also overloaded by an excess of offers to donate blood due to preconceptions linking disasters with a need for blood, and these offers all needed a response.

Well over a year has now passed since the Great East Japan Earthquake, and we have to make it a part of our everyday task to explore the many challenges and issues outlined in this booklet, and to reexamine our findings and insights in order to accurately pass on our discoveries. Blood programs are required to stay within national boundaries, but would future disasters call for cooperation among Red Cross and Red Crescent Societies, internationally?

Our sincere hope is that the lessons learned in this Japanese disaster may prove valuable to all those who carry the mission of blood programs around the world.

Tadateru Konoe
President of the Japanese Red Cross Society

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Made in Japan. Press of Kouhansya Co.,Ltd. Morioka, Iwate 020-0816

NOTICE: This is an English version of the Japanese report,
published on August 11, 2012. This document includes reports
on the damage caused by 3.11.2011 disaster, mini-symposium
held on October 20, 2011, and round-table discussion held on
May 9, 2012.

Where job titles are referred to, those are accurate at the date of
the report/meeting referred to, not the date of this publication.
Some content has been modified.

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THE BLOOD SERVICE RESPONSE TO THE EARTHQUAKE DISASTER

Reports from Six Blood Centers in Tohoku Region

JAPANESE RED CROSS SOCIETY

Aomori, Iwate, Miyagi, Akita, Yamagata, and Fukushima Blood Centers

Preface

First, we extend our sincerest sympathy to the families of those who were struck by this great disaster and pray for the souls of all who lost their lives.

At 2:46 p.m. on March 11, 2011, a subduction of the Pacific Ocean plate off the eastern shore of Japan caused a magnitude 9.0 earthquake, followed by a tsunami, which took many precious lives and damaged or destroyed a great number of buildings including medical facilities. The leading cause of death in the Great East Japan Earthquake was drowning, unlike the inland Great Hanshin Awaji Earthquake in 1995, where casualties were primarily caused by crushing and trauma from collapsed buildings. Naturally the crisis response of the blood centers to the Great East Japan Earthquake differed from the crisis response to the Great Hanshin Awaji Earthquake.

Japan is a volcanic land with magma swirling between the Pacific plate and the continental plate. It may be difficult to accurately foresee the future, but great earthquakes (with epicenters in Tokai, Tonankai, Nankai, and Hyuganada) as well as great tsunamis can happen at any time, according to the Japan Meteorological Agency. Therefore, all blood centers should prepare themselves for any type of future disaster. One of the impacts of this great earthquake was the Fukushima Nuclear Power Plant Disaster. Four nuclear reactors over-heated after the tsunami disabled their cooling systems, and at least three of the four reactors subsequently went into full or partial meltdown, releasing radioactive substances, and polluting the land and sea around. This led to the evacuation of an enormous number of inhabitants.

Fortunately, staff from the Blood Services Headquarters, the six blood centers in the Tohoku region and the prefectural chapters were able to implement our services and respond to the needs of the Japanese people, with national support. However, with the possibility of an earthquake further inland in a more densely populated area, we have further to expand and develop our crisis management.

We believe it is valuable to record the many lessons we have learned from this earthquake in order to inform the blood service industry. We appreciate everyone's enthusiasm and participation in recording the details of the implementation of blood services in the six Tohoku prefectures, particularly the most greatly affected disaster areas of Iwate, Miyagi, and Fukushima, as well as the comparative information provided for the Hyogo Prefecture, which experienced a great inland earthquake in 1995. We hope these records will be utilized actively at blood centers throughout Japan.

Japanese Red Cross Society
Itaru Nishimoto, Chief Executive Officer

Purpose of Publishing Records of Disasters

At 2:46 p.m. on March 11, 2011, the crustal movements that occurred off the Sanriku coast led to a magnitude 9.0 earthquake. This was one of the greatest earthquakes in history, and was followed by a huge tsunami, which struck coastal cities and towns. Great crustal movements are a phenomenon that we cannot escape as long as we live in Japan, and we have to accept the possibility of being struck by similar earthquakes again and again. Earthquakes can have various impacts. From the damage caused by great inland earthquakes like the Great Hanshin Awaji Earthquake in 1995, to this Great Earthquake, that caused a massive tsunami, there are consequences that must be dealt with.

To begin, we should record our experiences of the disaster, to pass these on to future generations and share them with other countries. These records should include what we could and could not do, what preparedness was useful or not, which ideas helped to minimize the damage and which ideas were counter-productive. These records should also include details of what was lacking in terms of a stable supply of blood, and describe how the public was able safely to receive medical care without anxiety under adverse circumstances. To accomplish this purpose, we should report everything, both the good things and the bad, about this disaster.

This book was composed from the viewpoint of six blood centers in the Tohoku region and may have some biases and opinions. Nevertheless, we must not so fear passing one-sided information down that we omit it.

We received a substantial volume of blood for transfusion from blood centers throughout Japan, even from the distant Okinawa, in order to cover our demands after local blood collection was stopped as a result of multiple malfunctions at the Miyagi Blood Center, which served as the central blood center for the whole Tohoku region. We are grateful from the bottom of our hearts for everyone's support and continued effort without forgetting the bond, "Kizuna".

Thank you very much for your concerns about our damage. Furthermore, thank you very much to the staff who came to the affected area from afar in response to our calls for help.

Shoji Kodate, Director General of the Aomori Blood Center
Hiroshi Inoue, Director General of the Iwate Blood Center
Takashi Ito, Director General of the Miyagi Blood Center
Susumu Omokawa, Director General of the Akita Blood Center
Hiroshi Shimizu, Director General of the Yamagata Blood Center
Masahiro Tsuboi, Director General of the Fukushima Blood Center

Where to find it (Japanese map)

Block Blood Center*	⑫ Osaka Blood Center	⑧ Kobe City
① Chushikoku Block Blood Center	⑮ Saitama Blood Center	⑨ Koriyama City
② Kanto Koshin-etsu Block Blood Center	⑮ Tokyo Metropolitan Blood Center	⑩ Minami-sanriku-cho
③ Kinki Block Blood Center	⑮ Yamagata Blood Center	⑪ Minami-soma City
④ Kyushu Block Blood Center	Blood Office	⑫ Morioka City
⑤ Tohoku Block Blood Center	⑮ Aizu Blood Office	⑬ Rikuzen-takata City
⑥ Tokai-Hokuriku Block Blood Center	⑮ Hachinohe Blood Office	⑭ Sendai City
Blood Center	⑮ Himeji Blood Office	⑮ Yamagata City
⑦ Aichi Blood Center	⑮ Iwaki Blood Office	Airport
⑧ Akita Blood Center	City	① Akita Airport
⑨ Aomori Blood Center	① Aizu-wakamatsu City	② Aomori Airport
⑩ Fukushima Blood Center	② Akita City	③ Fukushima Airport
⑪ Hyogo Blood Center	③ Aomori City	④ Iwate Hanamaki Airport
⑫ Iwate Blood Center	④ Fukushima City	⑤ Osaka Itami Airport
⑬ Miyagi Blood Center	⑤ Hachinohe City	⑥ Sendai Airport
⑭ Niigata Blood Center	⑥ Iwaki City	⑦ Shonai Airport
⑮ Okayama Blood Center	⑦ Kamaishi City	⑧ Yamagata Airport

Note; *: "Block Blood Center" indicates "Regional Blood Center" in Japan.



SYMBOLS	
+	Block Blood Center*
+	Blood Center
+	Blood Office
★	Prefectural capital
●	City
✈	Airport
—	Shinkansen
○	Shinkansen Station