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Perspective of Ningen Dock (No Cure is better than Prevention)

Preventive medicine not only involves examinations to confirm no abnormalities, but also contributes to participants’ better understanding of the results of all examinations, and to maintaining their future health. This is different from clinical medicine, which aims to improve the current health condition. The viewpoint and perspective of preventive medicine, which are to improve their future health, are important. Preventive medicine is composed of not only examinations, which do not improve health, and also involve medical specialists who have appropriate perspective.

1. Control measures for cancers in Japan

Until the 1950s, the deaths caused by infection diseases such as pneumonia and tuberculosis prevailed in Japan. However, these diseases have decreased and have been replaced by life-style related diseases such as cancer and heart diseases. In 1958, mass screening for stomach cancer using Fluoroscopic X-ray examination started among the asymptomatic population. Mobile (bus) mass screening for stomach cancer started in 1960. Those buses provided Fluoroscopic X-ray equipment and traveled to regions where residents lived. The government enacted the Health and Medical Services Act for the Aged, featuring physical checkups (cancer screening) and public health education. Cancer screening started under this law. The screenings for stomach and uterine (cervical) cancers started in 1983, for uterine (body), breast and lung cancers in 1987, and for colon cancer in 1992. Cancer screenings are implemented according to two methods: travel-type mass screenings at workplaces or local communities, and facility-based physical checkups.

<table>
<thead>
<tr>
<th>Year</th>
<th>Event</th>
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<tbody>
<tr>
<td>1958</td>
<td>Establishment of the Japan Cancer Control Association</td>
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<td></td>
<td>- Developed mass screening for stomach cancer using Fluoroscopic X-ray examination.</td>
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<td>1960</td>
<td>First mobile (bus) mass screening for stomach cancer</td>
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<tr>
<td>1966</td>
<td>Initial government funding for establishment of screening</td>
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<td>1969</td>
<td>system Announcement of Government Cancer Prevention</td>
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<tr>
<td>1981</td>
<td>Program Cancer became the leading cause of death in Japan</td>
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<tr>
<td>1983</td>
<td>10-Year strategy for combating cancer developed by the council on cancer strategy</td>
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2. Systems for Ningen Dock

In facility-based health checkups, multiple examinations for various cancers are provided. Also, prevention measures for cerebrovascular diseases and heart diseases, which are developed from hypertension, diabetes, or dyslipidemia, are also important. Therefore, several comprehensive screening package are a so-called "Ningen Dock."

A facility providing Ningen Dock has several features: (1) examinations for multiple cancers can be performed; (2) diagnosis using advanced medical devices is performed; (3) guidance for appropriate treatments is given; (4) health education for incidence prevention is provided; and (5) medical specialists are engaged in clinical work.

Examination flow of health checkups / Ningen Dock

A participant goes to the department of health checkups in the medical facility after fasting and check in. The fixed examinations are performed in turns by following instructions of persons in charge. The last step is a health consultation by a doctor. Later, the result report of all examinations with doctor’s advice is mailed to the participant. If a doctor finds any evidence of a disease, the participant is advised to have further high-precision examinations. If the result indicates any necessity to improve the lifestyle of participant who have no symptom of disease, an instruction to receive healthcare guidance is given for health maintenance. In healthcare guidance, a public health nurse checks participant’s lifestyles according to the results of examinations and assists to set an individual improvement goal depending on his or her lifestyle. Later, a nurse in charge follows up to help archive the goal.

Fig. Examination Flow
3. Lung cancer screening using CT scanning

The examination for lung cancer uses CT scanner. On a chest X-ray film, it is difficult to detect faint shadows called GGO (Ground Grass Opacity) or small nodules. A Chest CT image is better to detect the same lesion, and its location also can be identified accurately.

According to data from the Anti Lung Cancer Association to eradicate Lung Cancer from Tokyo, Japan’s first membership-based lung cancer screening association, lung cancer screenings with CT examination give better results than mass screenings using chest X-ray examinations such as cancer discovery rate, discovery rate of early stage cancer, and 5-year survival rate of 0.16%, 77.8%, and 82%, respectively. This suggests that screening with a high-precision device contributes to increase not only cancer discovery rate, but also discovery rate of earlier stage and to improve the 5-year survival rate. The application of advanced medical technologies to diagnosis, as well as to treatment, positively leads to a successful outcome in the disease prevention.

<table>
<thead>
<tr>
<th>Table</th>
<th>Lung cancer screening using CT scanning</th>
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<tbody>
<tr>
<td>Source: Anti-lung cancer association to eradicate lung cancer from Tokyo</td>
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</tbody>
</table>

<table>
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<tr>
<th>Number of persons screened:</th>
<th>26,338</th>
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<tbody>
<tr>
<td>Cancers discovered</td>
<td>43 persons (0.16 %)</td>
</tr>
<tr>
<td>Cancer stage</td>
<td>Chest XP</td>
</tr>
<tr>
<td>5-year Survival</td>
<td>Chest XP</td>
</tr>
</tbody>
</table>
4. Breast cancer screening using Mammography (MMG)

In mass screening, palpation and visual examination for breast cancer are usually performed. However, in recent years, mammography have become popular as well. The incidence of breast cancer is high among women in their 40s and 50s in Japan. Micro-calcifications in postmenopausal women are easily detected, whereas they in some premenopausal women are unclear due to mammary gland effects. Breast Ultrasound examination is clearly effective in such cases.

Figure is a comparison of true positive rates in examinations using mammography and breast ultrasonography in Ningen Dock. Mass screening needs to be performed in a uniform way, but appropriate examinations for participants can be performed in Ningen Dock. It is a big advantage of Ningen Dock.

![Breast cancer screening using MMG](image)

![Figure. Rate of true positives in breast cancer](chart)
5. Stomach and colon cancers screening

Screenings for stomach and colon cancers use upper/lower endoscopy. Since cases of colon cancers in deeper lesions are increasing, many medical facilities perform the examination for whole extent of large intestine with colonoscopy, CT Colonography, or the like.

Figure 6 shows a comparison of 5-year survival rates for stomach cancer among patients from outpatient cares, mass screenings, and Ningen Dock. This suggests that they are important to receive preventive health checkups and to perform using high-quality examinations using high-precision medical devices.
6. Preventive medicine through cancer screening

Japan’s medical technologies and healthcare systems support the world’s highest healthy life expectancy of our country. Our health care system is summarized here.

A) There are health checkups providers for everyone from infants to the elderly, and anywhere such as schools, offices, and local living areas.

B) There are two types of accessible systems: travel-based mass checkups and facility-based health checkups. Facility-based health checkups provides a dedicated process called Ningen Dock, which is specialized in preventive medicine.

C) Japan is a small country, and so people can receive medical services almost everywhere.

D) Japanese medical insurance covers the whole Japanese population.

E) Lastly, the most important thing is a public health education. Governmental and non-governmental organizations, medical associations, and local organizations such as elderly and women clubs are positively involved in disease prevention and health promotion activities.

The biggest goal of providing medical services in Japan, which are supported by medical technologies and healthcare systems, is to bring people well-being. It is supported by advanced medical technologies applied to treatment and diagnosis.

The biggest goal of providing Medical services in Japan is well-being.
7. Profile of the Author

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Honorary Director, Japanese Red Cross Society Kumamoto Health Center

Career
1965  Graduate School of Medical Science, Kumamoto University
1965  Lecturer, Kumamoto University, School of Medicine
1973  Executive Director, the Association of Healthcare, Kumamoto
1978  Director, Japanese Red Cross Society Kumamoto Health Center
2003  Honorary Director, Japanese Red Cross Society Kumamoto Health Center

Academic activity
Member, the Japan Society of Ningen Dock
The Chairman of Quality Evaluation of Ningen Dock Facilities
President of Specified Nonprofit Corporation Total Health care Com
Board Certified Member, the Japanese Society of Internal Medicine
Board Certified Member, the Japan Geriatrics Medicine
Senior Occupational Health Physician certified by Japan Society for Occupational Health
Honorary Director , the Society of Preventive Medicine for Kyushu
Director, the Study of Preventive Dementia
Cooperator of Medical Excellence Japan