

### Practical Experience of Telehealth Supporting System Between Antarctic Station and Japan

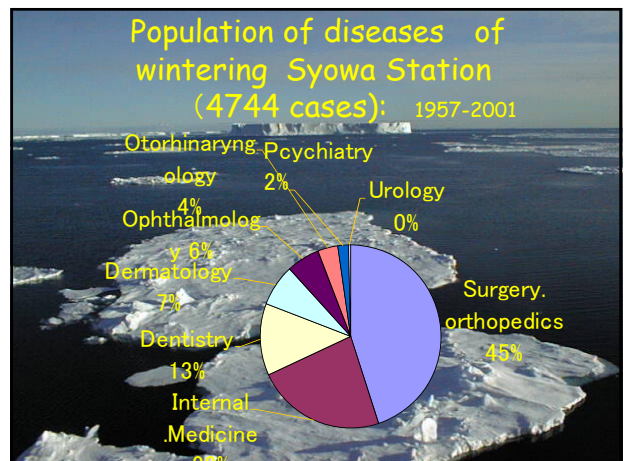
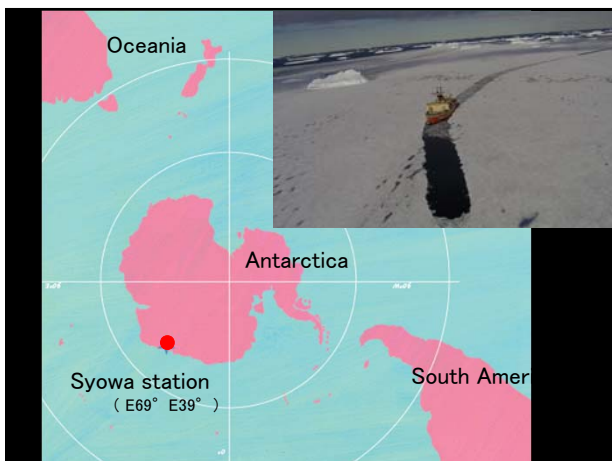

Giichiro OHNO (a,b),  
Kentaro WATANABE<sup>b</sup>, Yutaka OKADA<sup>a</sup> and Kazuo HIGUCHI<sup>c</sup>

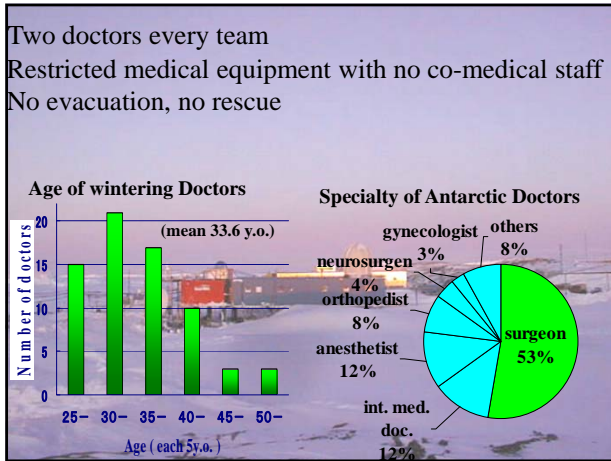


a Department of Surgery, Tokatsu Hospital, Nakatama, Chiba, Japan  
b National Institute of Polar Research, Tokyo, Japan  
c Tsubasa clinic, Kurashiki, Okayama, Japan

### JARE

Japanese Antarctic Research Expedition  
Since 1956  
Syowa station  
JARE 53<sup>rd</sup> is now wintering over.





### Back ground

- 1) Morbidity in Antarctic is not so high. But wide spectrum of disease occurs.
- 2) Two or one young doctors must manage all diseases without evacuation nor rescue.
- 3) **Telehealth** between Antarctic and Japan has been sought and tried for long times.

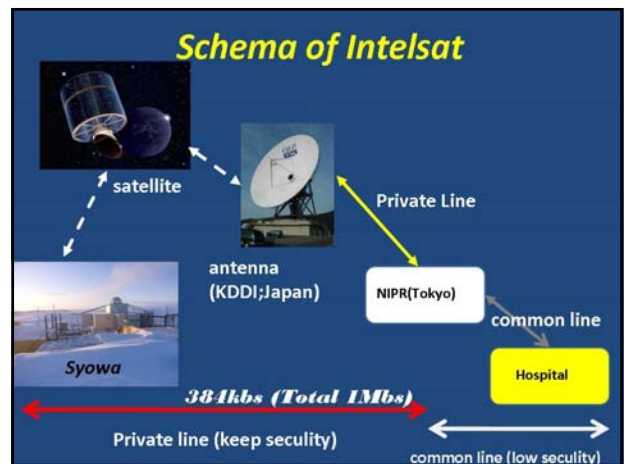
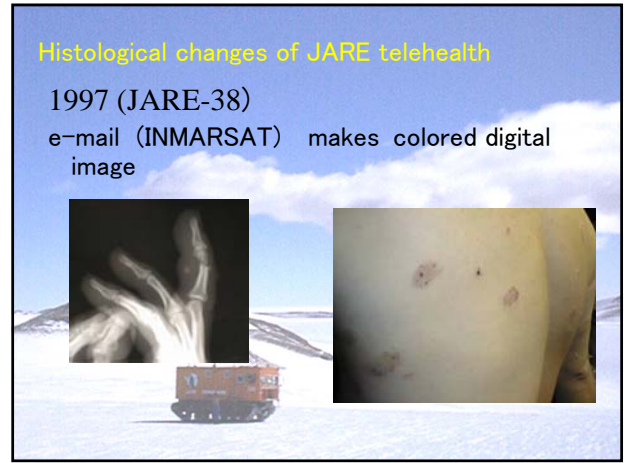
### Historical changes of JARE telehealth

1956 (JARE- 1)	radiotelegraphy
1975 (JARE-16)	radio Facsimile
1981 (JARE-22)	satellite radio-telephone
1981 (JARE-22)	satellite radio-facsimile
1997 (JARE-38)	e-mail (INMARSAT)
	making connection each 2 hour
	maximum 100kb/mail
2004 (JARE-45)	INTELSAT
	connection constantly
	maximum 10Mb/mail
	moving picture possible

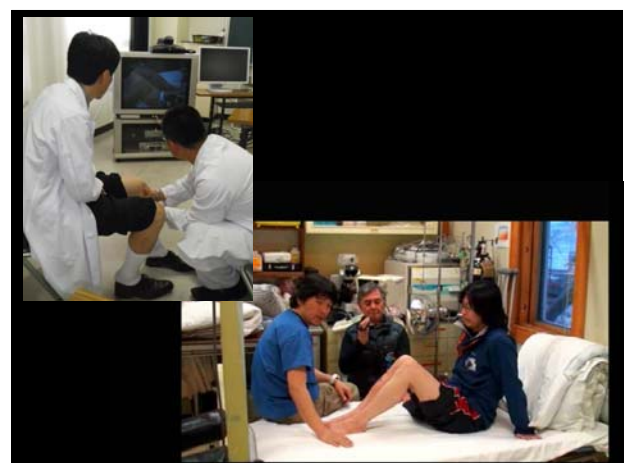
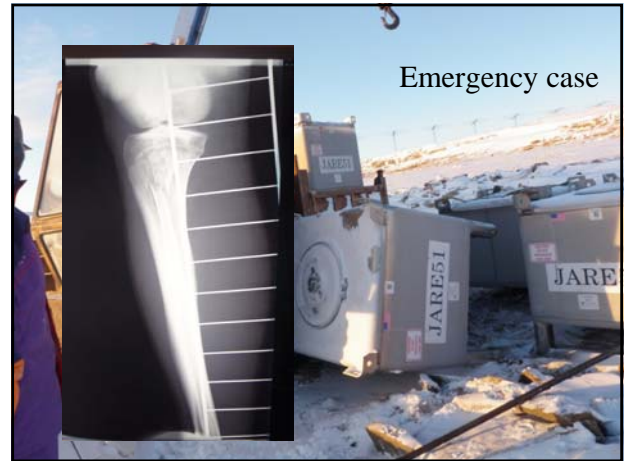
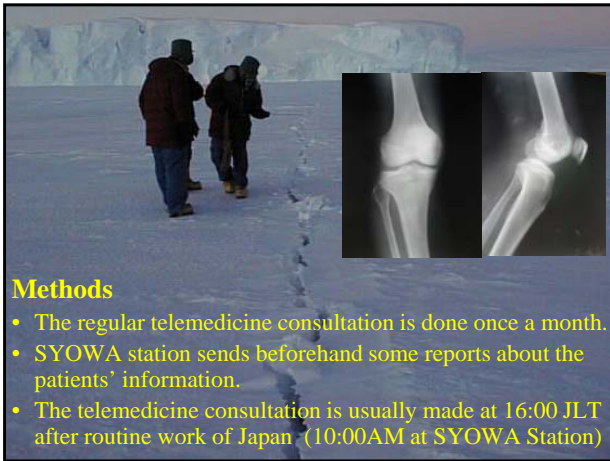
### Historical changes of JARE telehealth

1956(JARE- 1)

Radiotelegraphy makes .....







Lumbar compression fracture



Rehabilitation excursive



Operational support



Dental trouble





### Practical cases of Telehealth

2005 Feb. ~ 2006 January

	case	telemedicine	TV-system case(times)	email
<b>total</b>	<b>185</b>	<b>22</b>	<b>17(29)</b>	<b>5</b>
Internal med.	42	1	1 (3)	
Surgery	35	1	1 (3)	
Orthopedics	66	13	13(20)	
Ophthalmology	9	1		1
Dermatology	17	4	1 (1)	3
Otorhinaryngology	2			
Urology	1	1	1 (2)	
Dentistry	13	1		1

- ### Practical experience of Antarctic telhealth shows
- effective 1) Diagnosis
  - effective 2) Therapeutic treatment
  - effective 3) Medical education  
( The lecture of " Prevention of lumbago")
  - effective 4) Advice of Specialists.  
/ problem
  - considering 5) Direct counseling.( psychiatrist etc )
  - considering 6) Advice when the station doctor is absent.
  - concluded 7) Technological stability
  - concluded 8) Prompt connection in emergency.
  - problem 9) Cooperation of the hospital in Japan

