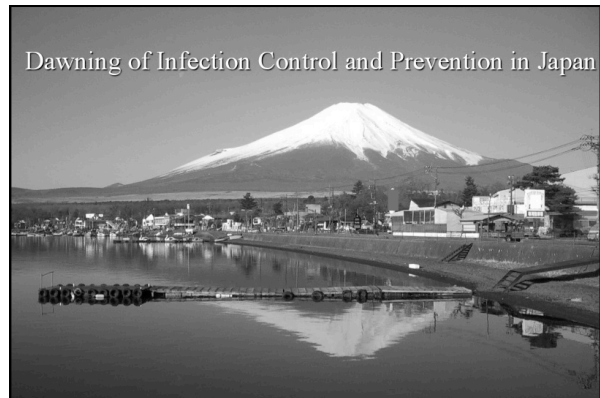
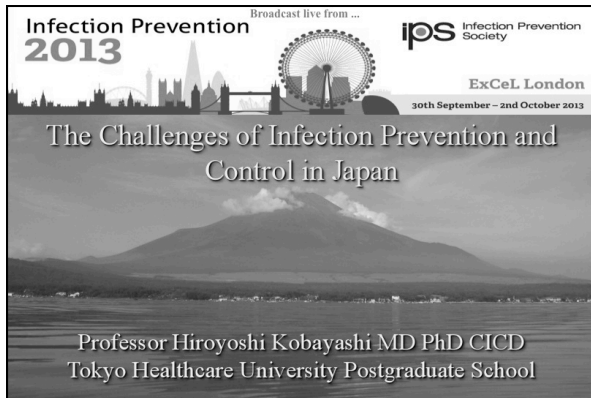


# The Challenges of Infection Prevention and Control in Japan

Prof. Hiroyoshi Kobayashi, Tokyo Healthcare University Postgraduate School  
Broadcast live from the Infection Prevention Society conference



Intervention manual of prophylactic antibiotics,  
Department of Cardiovascular Surgery, the University of Tokyo  
Hospital for cardiac surgery was made mainly by Dr Kobayashi in  
May 1966 for the first time in Japan.  
Prophylaxis for the effective concentration during cardiac surgery  
was emphasised.

methicillin (MPI-PC) → cloxacillin (MCI-PC)  
→ cephaloridine (CER) → cefazolin (CEZ) were  
successively employed according to the availability of  
newly introduced antibiotics.

Manual of Prophylactic Antibiotics for Cardiac Surgery  
胸部外科抗生物質投与法 Ⅳ (1966年5月)  
Tokyo Univ. 4th Ed. April 1972

- 術前日、もし必要と思われれば、  
ABPC 1.0~2.0g  
MCI-PC 又は MPIPC ABPC と等量 ) 分2筋注
- 術当日、手術室へ出発時 Just before the surgery  
CER 又は CEZ 約30mg/kg 筋注im
- 術当日より術後5~7日まで After the surgery for 5-7 days  
ABPC 30~60mg/kg/24hr  
MCI-PC 又は MPIPC ABPC と等量 平均24時間持続点滴

○ 各30mg/kg/24hr 点滴で充分血中濃度を得られるが、症例により適宜増量。  
成人の単回手術等では、各30mg/24hr である。  
○ 術中、体外循環終了直後より開始する。 Kobayashi H. et al. Surgery 1972;34:262-268(Jap)

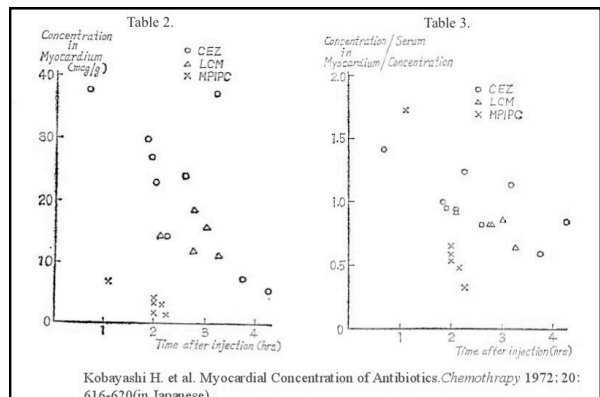
620 CHEMOTHERAPY JULY 1972

THE STUDIES ON THE CONCENTRATION IN MYOCARDIUM OF METHYLPHENYLISOXAZOLYLPENICILLIN (MPI-PC), CEFAZOLIN (CEZ) AND LINCOSYLYN (LCM) IN MAN

HIROYOSHI KOBAYASHI, AKEA MIYANO, TORU MITSUHASHI, MASARU SAIGUSA  
Department of Thoracic Surgery, Faculty of Medicine, University of Tokyo  
KIMACHIRO SHIMIZU, OTYOSUO KUNII and KAORU SHIMADA  
The First Department of Internal Medicine, Faculty of Medicine, University of Tokyo

Examination of the concentration in myocardium was carried out at cardiac surgery. About 30 mg/kg of MPI-PC, CEZ or LCM were given intramuscularly and then right auricle resected at the time of cannulation in open-heart surgery or left auricle resected at the time of mitral commissurotomy was examined. The serum concentration of the same time was also examined. To compare with these clinical results, examination of rat (100 mg/kg, i.m.) was carried out.

- MPI-PC  
Concentration in myocardium (M) was a half of serum concentration (S) about 2 hrs. after injection but M. was higher than S. 1 hr. after injection. M. was lower than that of the other two antibiotics. M. in rats was lower than M. in men.
- CEZ  
M. was equal to or a little lower than S. 1-4 hrs. after injection. M.S. in rats was approximately equal to that in men.
- LCM  
M. was a little lower than that of CEZ 1-2 hrs. after injection, but M.S. was approximately equal to that of CEZ.  
M. in rats was higher than M. in men.



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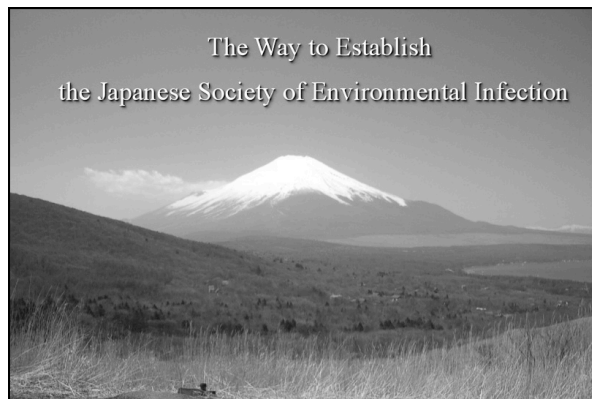
Table 4. 表 4 CEZ

Patient No.	Dosage (mg/kg)	Time after injection (min.)	Concentration		M/S
			Myocardium (mcg/g)	Serum (mcg/ml)	
71122	33.3	190	37.5(RA)	33.0	1.14
71159	33.3	115	27.0(RA)	28.0	0.96
71187	29.7	225	7.5(RA)	12.5	0.60
71193	27.0	155	24.0(LA)	29.0	0.83
71195	27.3	255	5.6(RA)	6.6	0.85
71212	32.0	135	14.3(RA)	11.5	1.24
72009	30.0	110	30.0(LA)	30.0	1.00
		120	22.8(RA)	26.5	0.86
72032	29.9	40	37.5(RA)	26.5	1.42

Chang of Death Ratio by Infection after Surgery with Intervention of Prophylactic Antibiotics for Cardiac Surgery Since May 1966  
 Department of Cardiovascular Surgery  
 The University of Tokyo Hospital

Before intervention -Dec.1965		After intervention May 1966-Jan. 1971	
Number of Surg.	Death	Number of Surg.	Death
424	9 2.1%	437	4 0.9%

Kobayashi H, et al. Surgery(Japanese) 1972;34:262-268.



1980  
 Hospital Infection Society (HIS)  
 Society of Hospital Epidemiologists of America (SHEA)

Dr Kobayashi became the member of both society in 1981 and attended alone every year.

During those years in Japan, the necessity of organisation of infection prevention and control society became to be hotly discussed. He obtained many information from UK and US.

The following key persons at 9<sup>th</sup> HIS Meeting at King's College, Cambridge on 27(Mon) and 28(Tue) June 1983 emphasised for Kobayashi who attended alone to organise Japanese Society in those two years.

HIS: EJ Lawbury:	First President 1981-1984
GJ Ayliffe:	First Chairman 1980-1984
	Third President 1988-1994
AM Emmerson:	Fourth Chairman 1990-1993
	Sixth President 2002-2006
DC Shanson:	Second Chairman 1984-1987
	Chairman, 1 <sup>st</sup> International Conference
MW Casewell:	Third President 1987-1990
SHEA: J McGowan:	First President 1981
RP Wenzel:	Fifth President 1985
RA Garibaldi:	Eighth President 1988

**Higashi-Hachimantai Symposium**  
 Chaired by Professor Rinji Kawana

- First Symposium 2(Sat)-3(Sun) July 1983
- Annual meeting had continued until 11<sup>th</sup> in 1993

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Organising Committee for  
 Japanese Society of Environmental Infections  
 on 2nd April 1985 at Tokyo University

Board    Yasusi Ueda  
           Kihachiro Shimizu  
           Rinji Kawana  
           Yoshiaki Kumamoto

Secretary    Humio Matsumoto  
                Hiroyoshi Kobayashi

1<sup>st</sup> Annual Meeting of  
 Japanese Society of Environmental Infection

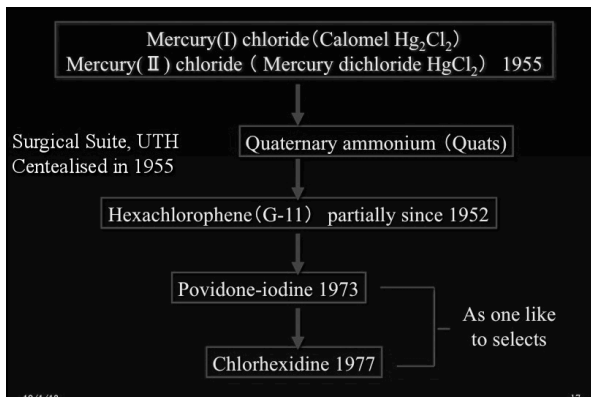
1 February 1986(Sat)  
 Tokyo

The number of attendants was approximately 200.  
 But at 28<sup>th</sup> Annual Meeting in February 2013 the number  
 of attendant was over 5,000.

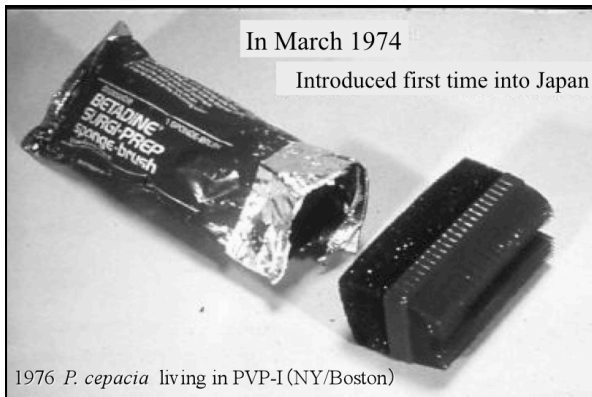
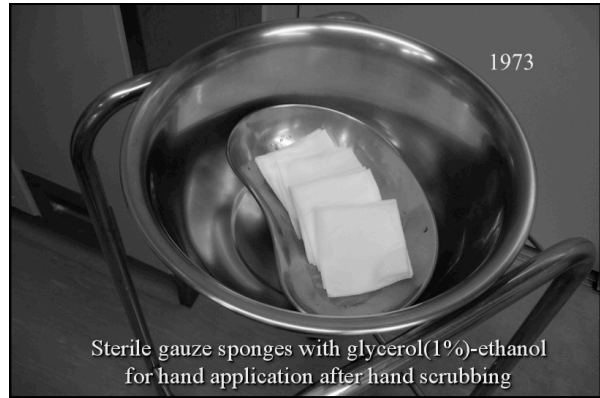
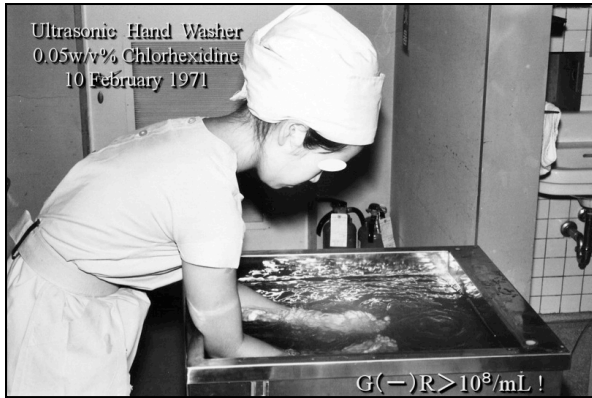
Guideline for Infection Control 1<sup>st</sup> ed. was published  
 By Japanese Society of Environmental Infection in 1990.

Department of Infection Control and Prevention,  
 Graduate School of Medicine and Faculty of Medicine  
 The University of Tokyo was established on June 1994.

It was the beginning of new infection prevention and  
 control era in Japan.

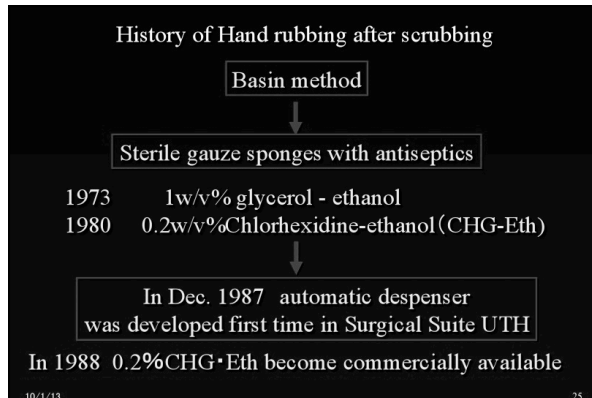


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**Hand Rubbing Alcohol Agents in Japan**

1978 Dr. Kobayashi met Sterillium® in Germany and tried to import the antiseptics, but n-propanol (1-propanol) is not permitted for clinical use in Japan. So he asked the production of new antiseptics to a pharmaceutical company. 0.2w/v% chlorhexidine in ethanol (2%CHG · Eth ) and 0.2w/v% quats in ethanol (0.2%BAC · Eth )were planned to develop, and the concerning studies had started.

1988 0.2%BAC · Eth was submitted to Ministry of Health and Welfare(MHW). At that time chlorhexidine was re-evaluated officially by the government, so the submission was suspended.

1985 0.2%BAC · Eth was approved by the government.

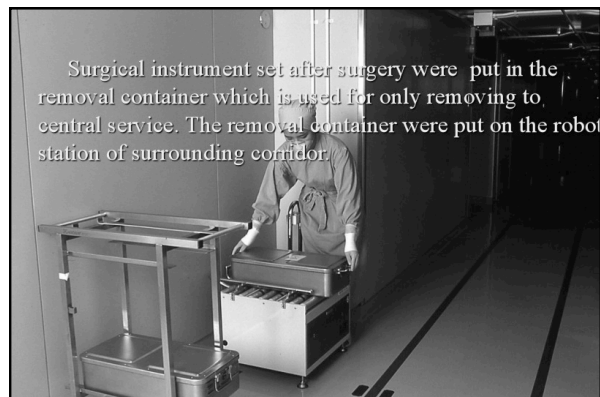
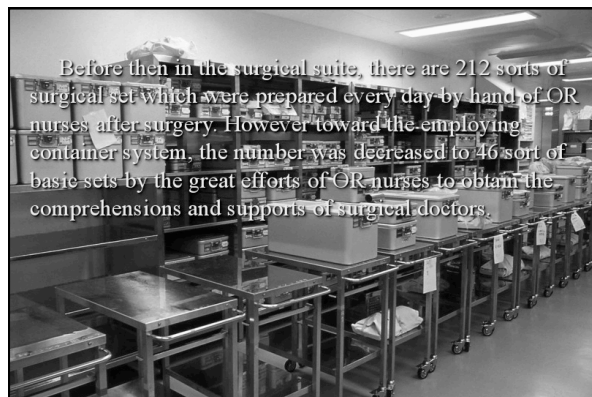
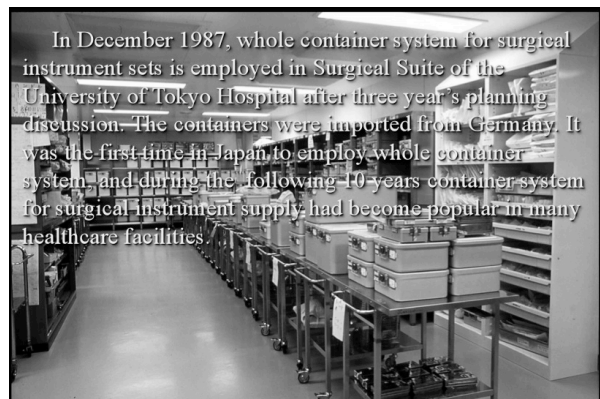
1995 0.2%BAC · Eth was put on the medical market as a first hand rubbing agent in Japan.

1997 Official re-evaluation of pharmaceutical effect of chlorhexidine finished. (24Step : PharmNo.755)

1985 0.2%CHG · Eth was submitted to NHW.

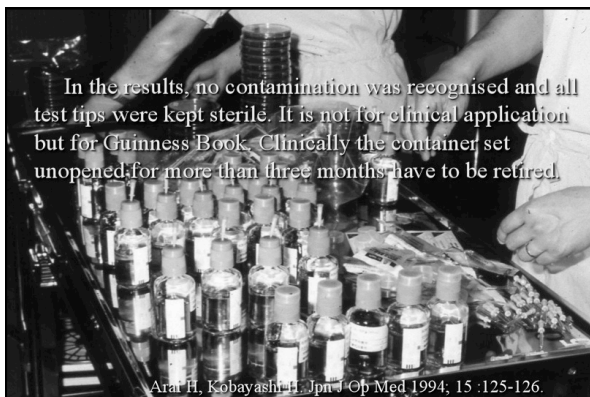
1987 0.2%CHG · Eth was approved by the government.

1988 0.2%CHG · Eth was put on the medical market.



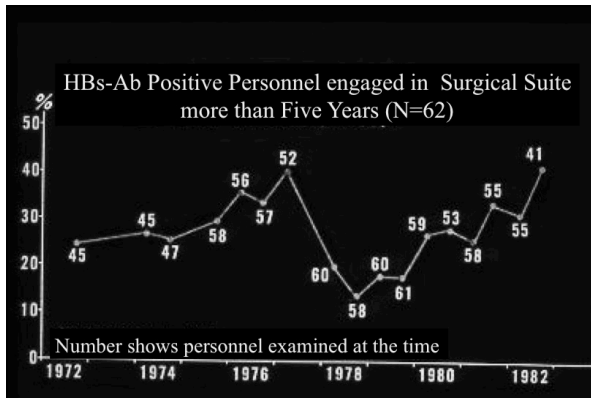
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Plasma Dilution at Treatment		
Chimp No	Disinfection	Plasma dilution
1	1%GA 5min	1:2,000
2		
3	0.1%GA 5min	1:1,000
4		
5	ethanol 5min	1:1,500
6		
7	98°C 2min	1:1,000
8		
9	untreated	1:1,000

DIRECT TRANSMISSION STUDY (Chimpanzee)		
JHB001 diluted 1 : 1000		
10 <sup>8</sup> infectious dose serum pool was diluted in physiological salt solution and injected iv.	Pre-heating	4 min
	98°C	2 min
	<b>Total</b>	<b>6 min</b>

Inactivation of hepatitis B virus		
GA	1w/v% 24°C 5min	Kobayashi H, et al. 1980
Bolling	98°C 2min	
NaClO		
GA		Bond WW, et al. 1983
GA+phenol	20°C 10min	
Isopropanol		
Iodophors		
Isopropanol+n-propanol		Howard CR, et al. 1983
GA	0.1w/v% 24°C 5min	Kobayashi H, et al. 1984
Ethanol	80v/v% 11°C 2min	

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**Susceptibility of hepatitis B virus to disinfectants**  
**Direct chimpanzee inoculation**

- 1) Kobayashi H, Oda T, Sikata T, et al. *Jpn J Med Instrument* 1980;50:524-525.
- 2) Bond WW, Favero MS, Peterson NJ, et al. *J Clin Microbiol* 1983;18:535-538
- 3) Howard CR, Dixon J, Young P, et al. *J Virol Meth* 1983;7:135-148.
- 4) Kobayashi H, Shikata T, Oda T, et al. *J Clin Microbiol* 1984;20:214-216.



1959 Methicillin was introduced as antibiotic

1962 Methicillin was introduced into Japan

1961 First methicillin-resistant *Staphylococcus aureus* isolated in England\*

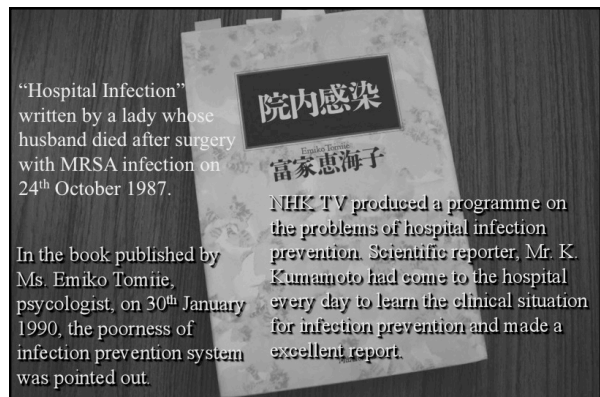
\*: Jevons MP. "Celbenin"-resistant Staphylococci. *Br Med J* 1961; 1: 124-125.

The late bacteriologist, Professor Patricia Jevons, discovered methicillin-resistant *Staphylococcus aureus*, or MRSA, at Clindale Laboratories in London on October 2, 1961, only two years after the drug methicillin was introduced to treat *Staphylococcus aureus* infections that had become resistant to penicillin.

Read more: [Who first discovered MRSA? | Answerbag](http://www.answerbag.com/q_view/2084447#ixzz2WBFd8bbJ)  
[http://www.answerbag.com/q\\_view/2084447#ixzz2WBFd8bbJ](http://www.answerbag.com/q_view/2084447#ixzz2WBFd8bbJ)

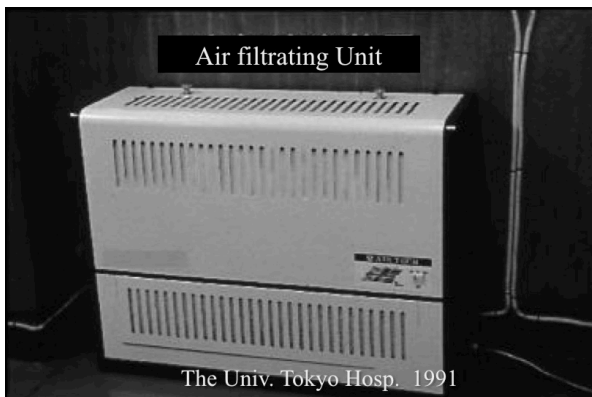
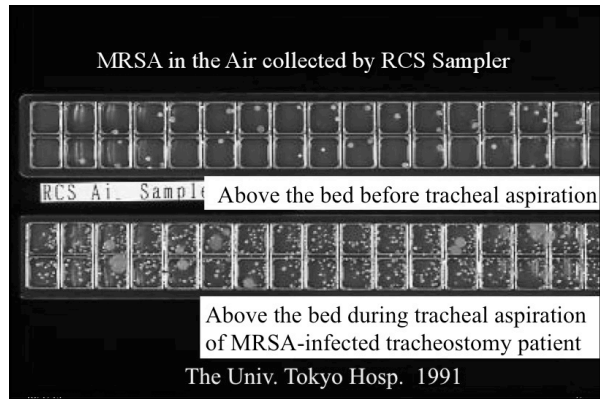
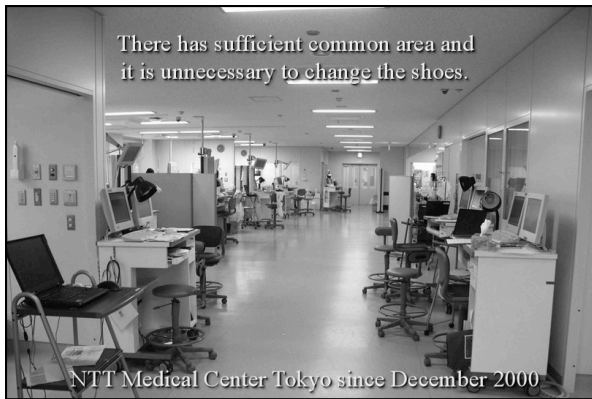
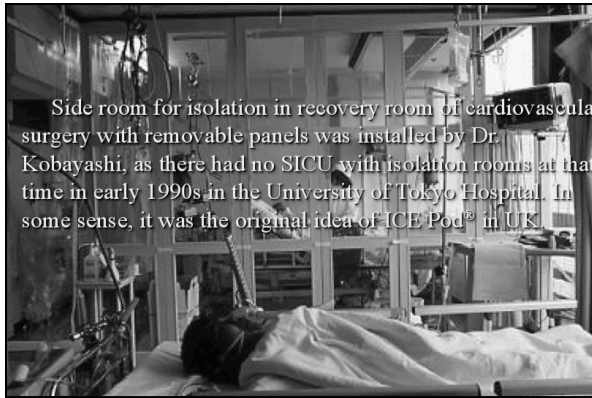
**MRSA Prevalence in the University of Tokyo Hospital**

Year	MRSA / Total <i>S. aureus</i> isolated %	
	Outpatients	Inpatient
1979	0	0
Jul.-Dec. 1984	7/162 4.3%	28/452 6.2%
Jan.-Jun. 1985	9/154 5.8%	17/432 17.8%
Jul.-Dec. 1985	10/171 5.8%	142/440 32.3%
Jan.-Jun. 1986	12/152 7.9%	159/455 36.0%
Jul.-Dec. 1986	15/166 9.0%	204/475 42.9%
Jan.-Jun. 1987	15/170 8.8%	381/654 58.3%
Jul.-Dec. 1987	22/249 8.8%	386/752 51.3%





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**MRSA Hospital Infection in UTH**

Year	Medical wards		Surgical wards		Total	
	N*	Infected	N*	Infected	N*	Infected
1990	2,914	38 1.30%	6,254	158 2.53%	9,168	196 2.14%
1991 <sup>a</sup>	2,940	39 1.33%	6,290	65 1.03%	9,230	104 1.13%
1992 <sup>b</sup>	3,105	17 0.55%	6,541	66 1.01%	9,646	83 0.86%
1993	3,048	17 0.56%	6,607	73 1.10%	9,655	90 0.93%
1994	3,068	24 0.78%	6,682	73 1.09%	9,750	97 0.99%

1991<sup>a</sup>: Ward liaison started in Surgical wards  
 1992<sup>b</sup>: Ward liaison in all wards  
 N\*: New admission

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MRSA Screening of Personnel  
 Engaged in the University of Tokyo Hospital  
 Nares and Throat  
 Jan. 1990 – Dec. 1993  
 117 / 2,785 times (including more than twice of test)  
 4.20%  
 At the High Seasons

MRSA Hospital Infection  
 No Diagnosis Criteria were Shown

Year	No. Hosp.	No. Admission	MRSA Hosp. Infect.	
1990 <sup>a)</sup>	20	132,658	1,253	0.94%
1991 <sup>b)</sup>	42	303,454	1,735	0.57%
1992 <sup>b)</sup>	42	313,909	2,234	0.72%
1993 <sup>b)</sup>	42	322,729	2,346	0.73%
1994 <sup>b)</sup>	42	330,492	2,663	0.81%
1999	59	513,445	4,058	0.79%
2000	79	673,028	5,214	0.77%
2001	93	863,770	6,277	0.73%
2001	103	1,033,566	7,206	0.70%
2002	130	1,350,248	10,042	0.74%

a,b): Kobayashi H. Report to Ministry of Health and Welfare 1995 & 1996.

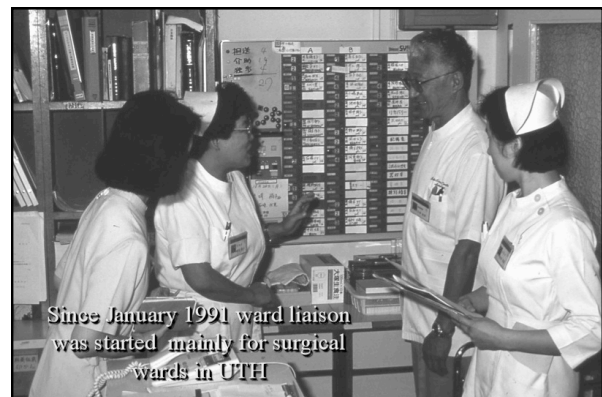
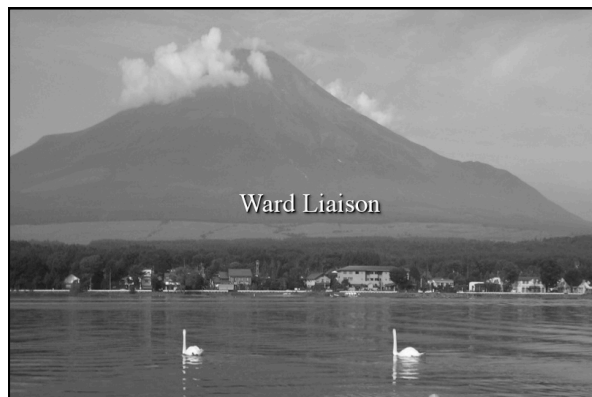
MRSA Infections in Japan  
 Apr. 1993 – Mar. 1994

No. of Beds	N	Infection (%)	
		Mean	S
-199	48	0.52	1.48
200-399	30	0.97	1.52
400-599	52	0.92	1.67
600-999	68	0.93	0.91
1000-	12	1.60	2.50
合計	210	0.98	1.49

MRSA Hospital Infection  
 Ward Liaison Surveillance with Isolation Reports and Diagnosis Criteria

Year	No. Hosp.	No. Admission	MRSA Hosp. Infect.	
1999	11	105,217	1,216	1.15%
2000	14	129,095	1,425	1.10%
2001	21	207,575	1,881	0.91%
2002	27	283,247	2,391	0.84%
2003	41	429,278	3,495	0.81%
2004	37	417,041	2,990	0.72%
2005	38	431,370	2,896	0.67%
2006	37	413,312	2,708	0.66%
2007	30	359,371	1,983	0.55%
2008	22	255,642	1,561	0.61%
2009	20	228,670	984	0.45%
2010	15	156,160	654	0.42%
2011	9	111,197	439	0.39%

Kobayashi H, et al. Jpn J Environment Infect 2013; 28: 178-179.



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In April 1991 ICT was organised and ICT ward liaison began once a week for all wards.

Year	Medical Wards		Surgical Wards		Total	
	N*	No. of Infect.	N*	No. of Infect.	N*	No. of Infect.
1990	2,914	38 1.30%	6,254	158 2.53%	9,168	196 2.14%
1991	2,940	39 1.33%	6,290	65 1.03%	9,230	104 1.13%
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1994	3,068	24 0.78%	6,682	73 1.09%	9,750	97 0.99%

N\*: No. of Admission  
 Jan.1991: Ward liaison for mainly surgical wards started  
 Apr.1991: Ward liaison for all wards started.



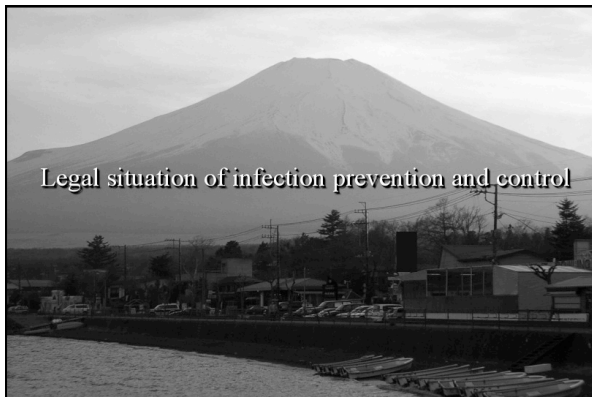
Education programme for house keepers started in 1991  
 Twice a year

The budget for house keeping in national university hospital is not sufficient.



A pappy new year party with house keepers in January 1991

I made effort to join the meeting of house keepers to have good communication and to let them realise the importance of house keeping for infection prevention.



Legal situation of infection prevention and control

Ward	No Cases	No Exam/Pt	Fee/Pt
Internal	18	110	\ 347,456
Surgical	73	55	\ 127,089
Total	91	66	\ 170,678

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10 days of additional hospital stay in the mean results of 16 facilities 1993 <sup>a)</sup>	\ 205,783
Fee for microbiological examination	\ 170,678
VCM1g/d×7days	\ 98,940
Antiseptics 500mL×2	\ 4,750
Single use devices \ 2,000×7日 <sup>b)</sup>	\ 14,000
<b>Total</b>	<b>\ 494,151</b>

\ 494,151×0.01 (MRSA infect. rate) = 25.7 (mean hosp. stay in 16 facilities)  
 = \ 192.3/pt/d (per one pt of whole in pts.)  
 Medical waste-discard fee, housekeeping, etc. = \ 810-860/pt/d  
 Recommended the additional fee of \ 200/pt/d → Finally \ 50/pt/d in April 1996

Kobayashi H. Economical effects. In Kobayashi H ed. *Infect Prev Control Tokyo*: Herusu 1996; 259-266. (In Japanese)

Expert Panel Committee for Hospital Infection Control  
 Ministry of Health, Labour, and Welfare

July 2002~ September 2003    eight time meetings

Member: 22 specialists from different area including non-medical  
 specialists (Chairperson: H. Kobayashi)

Report to the Ministry in September 2003

<http://www.mhlw.go.jp/shingi/2003/9/s0918-6.html>

- Items already carried out among those in the report to MHLW
1. Regional networks to support the hospitals with less than 300 beds where specialists are wanted for
  2. National committee for adequate promotion of the networks
  3. Publication of evidence-based guidelines
  4. Database on the practical evidences of HCAI
  5. Full-time specialists for HCAI in tertiary hospitals  
2003.11.5.~ (MHLW 医政 No.1105010)
  6. Financial support for urgent research
  7. Professional education to promote specialists of HCAI
  8. Certification of professional in each specialty

National Committee for Infection Prevention and Control  
 Ministry of Health, Labour, and Welfare (MHLW)

Ten medical doctors with different specialities  
 (Chairperson: H. Kobayashi)

Support and moderation of the regional networks  
 Since 13 January, 2005

New legal position of healthcare-associated infection

No.0306002 6 March 2006  
 Ministry of Health, Labour and Welfare

Notification to Local government etc.

Regulation for healthcare fee of healthcare insurance in Japan

No.20 Fee for Healthcare Risk Management

1. Additional fee for healthcare risk management
  - (1) Healthcare risk management
  - E. Independent personnel for Infection prevention and control

Partial revision of the medical law enforcement regulations 1-11  
 Enforced on 1 April 2007 6-10 IRYO-ROPPO 15 June, 2007

- 1-2 Healthcare risk management
- 1-2-1-11 ----- omission -----
- 2) Chief executive or manager of hospital have to employ the following strategies.
- 2)-1 Development of nosocomial infection control system (B is only for hospital, clinic with beds and midwifery clinic with beds).

- A Development of manual for hospital infection prevention and control
- B Holding infection control committee
- C Educational programme for hospital personnel on infection prevention and control
- D Reporting the nosocomial infections and improvement of the strategies

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**Enforcement Regulations for HCAI**  
Enforced on 1 April 2007

Category of Hospital	Specified tertiary hospital	Educational hospital	Common hospital	Clinic with bed	Clinic without beds
Manual of own hospital	◎	◎	◎	◎	◎
Infection Control Committee	◎	◎	◎	◎	—
Education for personnel	◎	◎	◎	◎	◎
Infection report	◎	◎	◎	◎	◎
Division for HCI	◎	◎	—	—	—
Responsible person	○	◎*	—	—	—

◎: Newly regulated ○: Already regulated ◎\*: Included into risk manage.

Newly developed guideline and manual examples  
Proposed by MHLW

- Guideline for hospitals with less than 300 beds 2007
- Draft Manual for smaller hospitals and clinics with beds 2007  
— Example of simplified and effective manual —
- Draft Manual for clinics without beds 2007  
— Example of simplified and effective manual —

Sponsored by Ministry of Health, Labour, and Welfare  
Study on construction of safety environment for healthcare  
 Kobayashi H, et al

**Additional Admission Fee for Infection Control Services**  
1,000 ¥ for each admission since 1st April 2010

Services should include

- Full time ICD or ICN
- Full or part time ICN have to have more than 5 year-experience for infection prevention and control and to be trained through 6 month training course officially authorized.

This additional fee for infection control services is developed by “Study on expenses of the items used for infection prevention and control in a tertiary university hospital.” by Rika Yoshida.

**New Additional Admission Fee for Infection Control Services**  
April 2012

Additional fee for infection control services -1 ¥4,000/admission (Ca \$25)  
 Additional fee for infection control services -2 ¥1,000/admission  
 Additional fee for regional collaboration ¥1,000/admission

**Additional Fee for Infection Control Services - 1**

- Full-time specialist should be appointed and responsible division should be organised.
- ICT with following personnel should be organised.
  - Chargeable ICD with the experience for more than three years.
  - Chargeable ICN with the experience for more than five years and official diploma in adequate six months-education.
  - Chargeable pharmacist with more than three year hospital experience.
  - Chargeable clinical technologist with more than three year hospital experience.
 ITN or ICD should be full-time.
- More than four times of conferences with the facilities of additional fee -2 should be held.

**Additional Fee for Infection Control Services - 2**

- The facilities with 300 beds or less is mainly targeted.
- ICT should be organised. Six months education for ICN or full-time personnel is not requested.
- More than four times of conferences with the facilities of additional fee -1 should be held.

# The Challenges of Infection Prevention and Control in Japan

Prof. Hiroyoshi Kobayashi, Tokyo Healthcare University Postgraduate School  
Broadcast live from the Infection Prevention Society conference

### Additional fee for regional collaboration

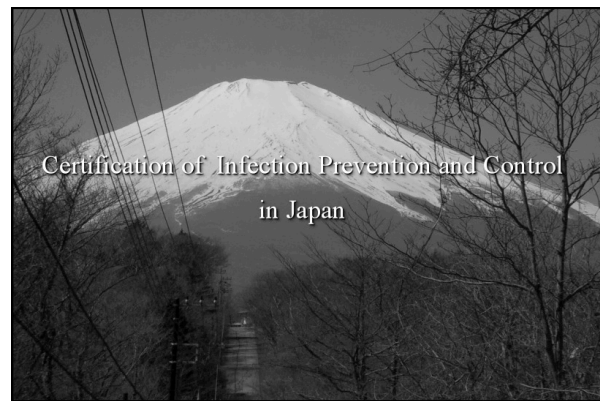
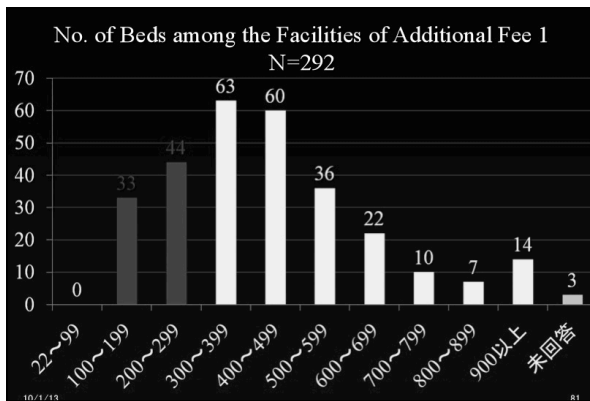
1. Collaboration with another facility which submitted additional fee for infection control services – 1.
2. Visitation to audit another collaborating facility more than once a year.
3. Visitation to be audited by another collaborating facility more than once a year.

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### Independent Infection Control Nurse in Japan

No. of beds	No. of facilities(A)	Independent ICN(B)	A/B(%)
Total	8,794	2,787	31.7
20-49	1,051	277	26.4
50-99	2,288	651	28.5
100-149	1,433	436	30.4
150-199	1,313	425	32.4
200-299	1,130	374	33.1
300-399	745	273	36.6
400-499	366	147	40.2
500-599	200	88	44.0
600-699	115	48	41.7
700-799	57	25	43.9
800-899	33	18	54.5
900-	63	25	39.7

Sei T. IC NetWork 2010;13: 2-4. (Partially modified)



### Certified Infection Control Doctor (CICD)

- Certification of Infection Control Doctor (ICD) by the Joint Commission consisted of six scientific societies started in 1999 in order to increase the number of ICDs interested in hospital infection prevention and control.
- Doctors engaged in the laboratory researches are also included in the certification as specialists to be consulted with.
- On 1 January, 2000, 832 doctors were certified for the first time.
- As of September 2013, 7,106 ICDs had been certified by the Joint Commission consisted of 22 scientific societies.

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- ### Certification Committee Member Society
1. The Japanese Association for Infectious Disease
  2. Japanese Society of Environmental Infections
  3. The Japanese Society for Clinical Microbiology
  4. Japanese Society of Chemotherapy
  5. Japanese Society for Bacteriology
  6. The Japanese Society for Virology
  7. Japanese Association for Acute Medicine
  8. The Japanese Society for Medical Mycology
  9. Japanese Association for Ocular Infection
  10. Japan Society for Surgical Infection
  11. Japanese Society of Parasitology
  12. Japanese Society for Study of Bone and Joint Infections
  13. The Japanese Society for Pediatric Infectious Diseases
  14. Japanese Society of Oral Therapeutics and Pharmacology
  15. The Japanese Society of Clinical Parasitology
  16. Japanese Society for Sexually Transmitted Infections
  17. The Japanese Society of Intensive Care Medicine
  18. Japanese Society for Oral Infections Diseases
  19. The Japanese Respiratory Society
  20. The Japanese Society for Tuberculous Osis
  21. Japanese Society of Dentistry for Medically Compromised Patient
  22. Japan Society of Pain Clinicians
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CICD : 7,106 as of September 2013

≥500 beds :	456 hospitals
≥300 beds :	1,546 hospitals
≥200 beds :	2,654 hospitals

General beds : 899,385 (−10,052 −1.11%)  
 Chronic bed : 330,167 (− 9,191 −2.71%)  
 Total : 1,583,073 (−26,330 −1.64%)  
 2011\*  
 ∴ 241.0 beds/ one CICD

\* : Health and Welfare Statics Ass. J Health Welfare Statics2013;60(9).

**Diploma for Infect Control Staff (ICS) since 2002**

In smaller or middle size healthcare facilities, number of infection control staff specially educated were wanted for. So the new certification programme was discussed in the committee of Japan Hospital Association in which main members are smaller and middle size facilities.

However I objected to make same kind of certification system in infection prevention and control and proposed to make educational programme to be able to become ICS with three week ends (totally full 6 days) curriculum. It was accepted in the committee. In the results, for these ten years the educated personnel became key person for infection prevention and control in those facilities.

**Diploma for Infect Control Staff (ICS) since 2002**

Year	Number
2002	339
2003	366
2004	413
2005	425
2006	553
2007	495
2008	443
2009	343
2010	339
2011	410
2012	449
Total	4,575

**Certification of Sterilization Service Technician and Sterilization Specialist**

- 2nd grade Certified Sterilization Service Technicians (CSST) and 1st grade Certified Sterilization Specialist (CSS)**
- May 2000 : "Guideline for sterility assurance"  
published by Jpn Ass Med Instrument (JAMI), and edited by Kobayashi, H.
  - June 2000 : Certification programme for CSST by JAMI decided
  - November 2000 : "Sterilization in Medical Settings"  
published by JAMI, and edited by Kobayashi, H.  
Training course and examination for CSST started.
  - November 2003 : Training course and examination for CSS started.
  - 2002: Certification programme for CSS by JAMI started
  - As of September 2013 : 3,202 CSSTs (2nd grade) and 245 CSSs (1st grade) have been certified.

- Training programme for certified ICN  
By Japanese Nursing Association**
- Japanese Nursing Association since 2000
  - National College of Nursing since 2001
  - Four educational facilities from 2004

# The Challenges of Infection Prevention and Control in Japan

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#### Certification of ICN

- Too small number of certified nurse in infection control(CNIC) by Japanese Nursing Association to cover even large hospitals only
- Unfortunately, more than half of CNIC cannot engaged in full-time ICN job, because those CNIC went to the educational course by their own will and not by the recommendation of CE or Director of Nursing.
- Complemental education systems should be necessary to obtain the sufficient number of ICN

#### Tokyo Healthcare University Postgraduate School

Educational programme for six months to become officially certified nurse in infection prevention and control was submitted to MHLW on 3<sup>rd</sup> March 2010 and met with approval of MHLW on 11<sup>th</sup> June 2010. In the programme for six months, the student has to have more than five year experience in infection control and prevention in clinical settings and must be recommended to come to the school by the recommendation of CE or Nursing Director. In the programme, different from that of Japanese Nursing Association, one can learn with continuing one's daily nursing job and learn on weekends and every day by internet communications but with three times of full week condensed educations.

#### Curriculum of Practical Nursing for Infection Prevention and Control 6 months

1. History and future
2. Regal regulation of infection control and prevention
3. Healthcare insurance system and fee, and hospital economy
4. Role and strategy of infection control nurses and ability required
5. Team healthcare, collaboration technique and humanity
6. Quality of healthcare, and evaluation and improvement of it
7. Strategy for cost benefit of measures and economical evaluation
8. Evaluation and improvement plan for own hospital depending on the size of it
9. Actual experiences and improvement strategies of infection prevention and control practices in clinical settings
10. Risk management and collaborative practices
11. Suits and their actual examples each for 90min. ×15times

#### Professional Nurse for Infection Prevention and Control Tokyo Healthcare University Postgraduate School

~3<sup>rd</sup> year (2012)      55 certified

Independent		28
Mainly engaged in		17
	Subtotal	4782%
Member of ICT		4
Link nurse		4
Others		2

#### Certification of Specialists in Infection Prevention and Control

Certified Infect. Control Dr. 1999-	7,106
Certified Nr. in Infect. Control 2001-	1,808
Professional Nurse for Infection Prevention and Control	55
Certified Infection Control Pharmacy Specialist 2006-	242
Certified Pharmacist in Infection Control 2009-	646
Certified Sterilization Specialist 2003-	245
Certified Sterilization Technician 2000-	3,202
Infection Control Microbiological Technologist 2006-	455
Diploma for Infect Control Staff 2002-	4,596

As of Sept. 2013

Cooperation and information exchange with neighbour countries should be necessary and indispensable.

East Asian Conference on Infection Control consists of Japan, Korea and China is held once a year since 2002, this year in Hangzhou, China in November.



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