

Pre-op discharge and day surgery
arrangement for upper limb
trauma patient in NTWC

Pre-op discharge and day surgery arrangement for upper limb trauma patient in NTWC

Lau SC, Wong CM, Chan YF, Chan PT,
Lam MY, Chow YY

Department of Orthopaedics and
Traumatology, NTWC

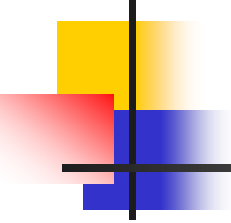


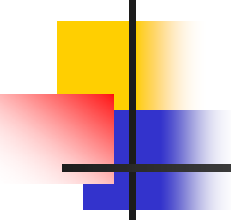
Introduction



Introduction

Why we run this program ?

- 
-
- Can we **discharge** the acute trauma patients while waiting for operation ?

- 
-
- Can we discharge the acute trauma patients while waiting for operation ?
 - Can we manage the acute trauma patients in the **Ambulatory Service Center** ?

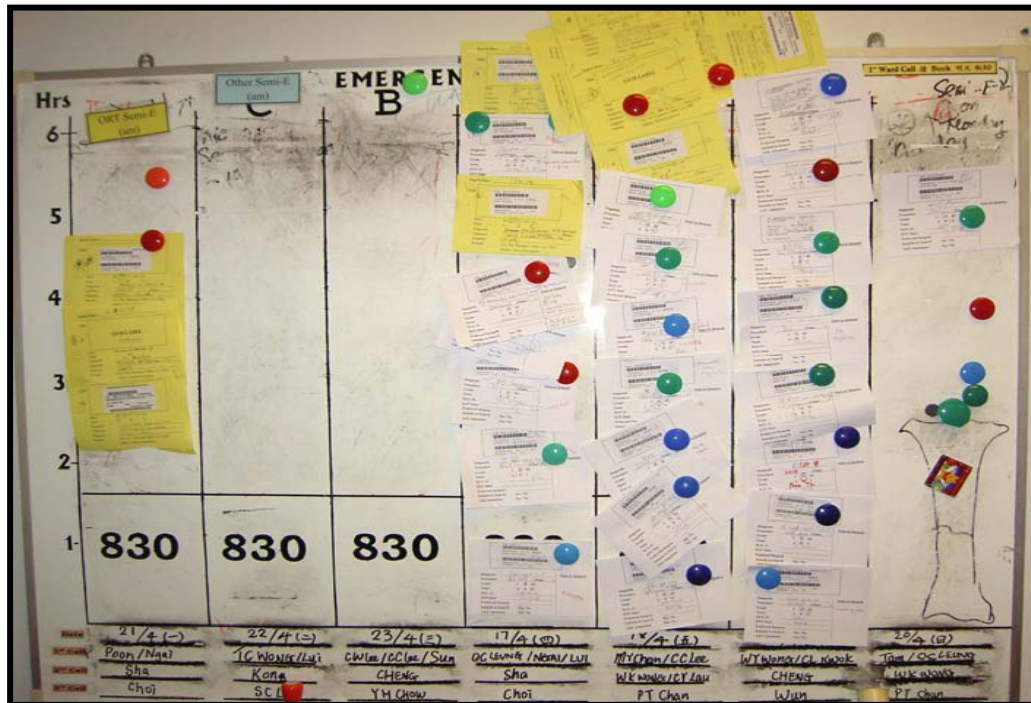
Background (1)

- many patients are admitted because of **upper limb trauma**, some of them need operative treatment
- But, they may not fit for immediate surgery because of **soft tissue swelling**



Background (2)

- Our Emergency Theatre is overloaded by these “less urgent” Trauma cases



Background (3)

- POH has started ambulatory care service since 9/07, we want to maximize it's use





Program Plan

- 1) **Discharged** after assessment by surgeons and Anesthetists.
- 2) **Admitted** to the Ambulatory Service Center for operation
- 3) **Monitored** by the Nursing staff before and after the operation.



Objectives



Objectives

- 1) extend the concept of “day surgery service” to acute trauma care



Objectives

- 1) extend the concept of “day surgery service” to acute trauma care
- 2) decrease the demand for emergency OT service especially at the night time



Objectives

- 1) extend the concept of “day surgery service” to acute trauma care
- 2) decrease the demand for emergency OT service especially at the night time
- 3) optimize the usage of Day surgery center facilities in POH



Objectives

- 1) extend the concept of “day surgery service” to acute trauma care
- 2) decrease the demand for emergency OT service especially at the night time
- 3) optimize the usage of Day surgery center facilities in POH
- 4) shorten the duration of hospital stay



Methods



Suitable patient

- Understand and agree the arrangement
- mentally stable
- good premorbid health
- can get hold of medical facilities at anytime



Suitable fracture

- Prefer Upper limb fracture
- No wound
- can be discharged early after OT
- eg: phalangeal fracture
 - distal radius fracture
 - carpal bone fracture
 - simple elbow fracture



Methods

- Steps 1) assessed by surgeon



Methods

- Steps 1) assessed by surgeon
2) assessed by anaesthetist



Methods

- Steps
 - 1) assessed by surgeon
 - 2) assessed by anaesthetist
 - 3) coordinate the discharge and day admission by **nursing staff**



Methods

- Steps
 - 1) assessed by surgeon
 - 2) assessed by anaesthetist
 - 3) coordinate the discharge and day admission by nursing staff
 - 4) admitted to **POH** for operation



Methods

- Steps
 - 1) assessed by surgeon
 - 2) assessed by anaesthetist
 - 3) coordinate the discharge and day admission by nursing staff
 - 4) admitted to POH for operation
- Data collection: data sheet, CDARS
- Data analysis: SPSS

1) Assessed by surgeon

- Surgeon team: Lau SC, Chan PT, Chan YF, Lam MY, Chow YY





surgeon

- Assess the patient
- Sign consent
- Write down Pre-op preparation and pre-op antibiotic
- Book OT through computer system
- Inform anaesthetist

UL# case treatment Order sheet

By doctor

Diagnosis: _____ Operation: _____

Inform OT staff by Ext. 5472 (preferably before 2pm)

Consent by surgeon

Book into OTMS (all pt. is admitted to SSW at 7:30am)

Home: __ after anaesthetist assessment or _____

WFU: __ not needed / __ needed _____

Admitted POH on _____

SL: __ to POH admission date / __ not necessary

Drugs: _____

By nursing staff:

Medical records to HIRO as urgent with attached memo.

X-ray films: __ to surgeon / __ back to x-ray dept.

Inform pt. 1) discharge arrangement 2) home care 3) ways to seek help if any problem 4) POH admission information 5) FMN on OT day

To nursing staff of SSW in POH:

Keep fast

Please prepare patient for OT

Antibiotic cover: _____

(write MAR form, only cephalosporin or vancomycin is available for 1st case)

signature: _____ Dr. _____

UL# case treatment Order sheet

By doctor

Diagnosis: _____ Operation: _____

Inform OT staff by Ext. 5472 (preferably before 2pm)

Consent by surgeon

Book into OTMS (all pt. is admitted to SSW at 7:30am)

Home: __ after anaesthetist assessment or _____

WFU: __ not needed / __ needed _____

Admitted POH on _____

SL: __ to POH admission date / __ not necessary

Drugs: _____

By nursing staff:

Medical records to HIRO as urgent with attached memo.

X-ray films: __ to surgeon / __ back to x-ray dept.

Inform pt. 1) discharge arrangement 2) home care 3) ways to seek help if any problem 4) POH admission information 5) FMN on OT day

To nursing staff of SSW in POH:

Keep fast

Please prepare patient for OT

Antibiotic cover: _____

(write MAR form, only cephalosporin or vancomycin is available for 1st case)

signature: _____ Dr. _____

UL# case treatment Order sheet

By doctor

Diagnosis: _____ Operation: _____

Inform OT staff by Ext. 5472 (preferably before 2pm)

Consent by surgeon

Book into OTMS (all pt. is admitted to SSW at 7:30am)

Home: __ after anaesthetist assessment or _____

WFU: __ not needed / __ needed _____

Admitted POH on _____

SL: __ to POH admission date / __ not necessary

Drugs: _____

By nursing staff:

Medical records to HIRO as urgent with attached memo.

X-ray films: __ to surgeon / __ back to x-ray dept.

Inform pt. 1) discharge arrangement 2) home care 3) ways to seek help if any problem 4) POH admission information 5) FMN on OT day

To nursing staff of SSW in POH:

Keep fast

Please prepare patient for OT

Antibiotic cover: _____

(write MAR form, only cephalosporin or vancomycin is available for 1st case)

signature: _____ Dr. _____

UL# case treatment Order sheet

By doctor

Diagnosis: _____ Operation: _____

Inform OT staff by Ext. 5472 (preferably before 2pm)

Consent by surgeon

Book into OTMS (all pt. is admitted to SSW at 7:30am)

Home: __ after anaesthetist assessment or _____

WFU: __ not needed / __ needed _____

Admitted POH on _____

SL: __ to POH admission date / __ not necessary

Drugs: _____

By nursing staff:

Medical records to HIRO as urgent with attached memo.

X-ray films: __ to surgeon / __ back to x-ray dept.

Inform pt. 1)discharge arrangement 2) home care 3) ways to seek help if any problem 4) POH admission information 5) FMN on OT day

To nursing staff of SSW in POH:

Keep fast

Please prepare patient for OT

Antibiotic cover: _____

(write MAR form, only cephalosporin or vancomycin is available for 1st case)

signature: _____ Dr. _____



2) Assessed by anaesthetist

- inform them before **2pm**, they will assess the patient on the **same day**
- Monday to Sunday



3) Assessed by Nurse



3) Assessed by Nurse



- explains the discharge and day admission arrangement

3) Assessed by Nurse



- explains the discharge and day admission arrangement
- advices on swelling control, pain control and fracture care

3) Assessed by Nurse



- explains the discharge and day admission arrangement
- advices on swelling control, pain control and fracture care
- direct phone no. and ward phone no.

3) Assessed by Nurse



- explains the discharge and day admission arrangement
- advices on swelling control, pain control and fracture care
- direct phone no. and ward phone no.
- patients can come back to original ward if any problems

3) Assessed by Nurse



- explains the discharge and day admission arrangement
- advices on swelling control, pain control and fracture care
- direct phone no. and ward phone no.
- patients can come back to original ward if any problems
- Phone contact patients before and after OT

Pre-op discharge and day surgery arrangement for UL # patient
Data sheet

(Please Complete by surgeon in POH and keep in SSW)

Gum Label

Diagnosis: _____

Operation: _____

Pre-op discharge arrangement: Accept Refuse Reason _____

	Event	date	Remarks
1	1 st consultation/admission		
2	Assessed by surgeon		
3	Assessed by anesthetist		
4	Pre-op discharge		
5	Interval treatment eg: WFU _____		
6	Admitted to POH		
7	Discharged from POH		

Problems in perioperative period: _____

Patient opinions: (1—worst, 10—best)

pre-op discharge arrangement: 1 2 3 4 5 6 7 8 9 10

Day surgery arrangement: 1 2 3 4 5 6 7 8 9 10

4) Admitted to POH for OT





Results

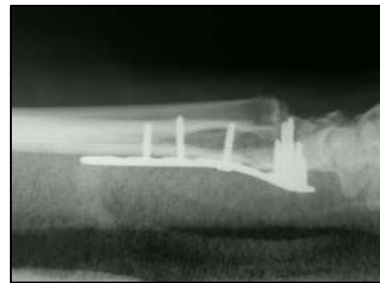
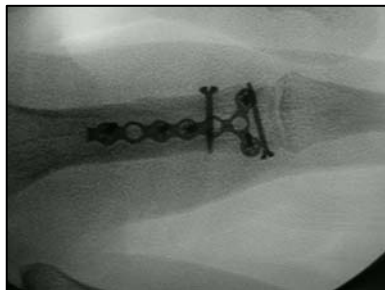
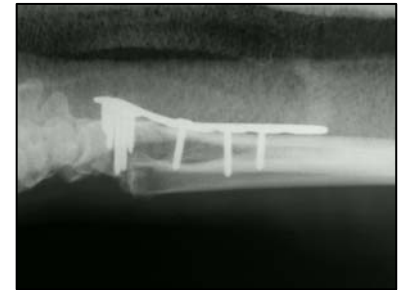
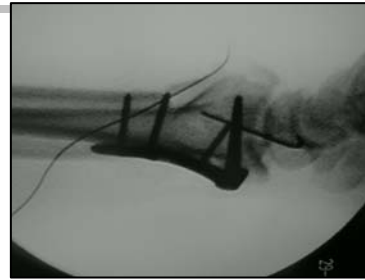
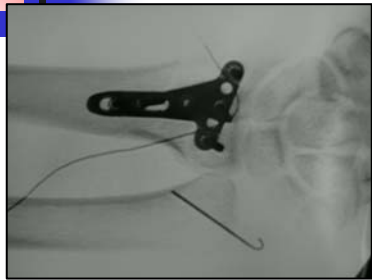


Results

- 4 months (1-11-2007 to 29-2-2008)
- 46 patients
- Age: 17 to 67

Diagnosis	No.
Distal radius fracture	18
Phalangeal fracture	20
others	8

Some examples





Total length of hospitalization

	Average no. of days
TMH	
stay at home	
POH	
Total length of hospitalization	



Total length of hospitalization

	Average no. of days
TMH	2.06
stay at home	
POH	
Total length of hospitalization	



Total length of hospitalization

	Average no. of days
TMH	2.06
stay at home	4.67
POH	
Total length of hospitalization	



Total length of hospitalization

	Average no. of days
TMH	2.06
stay at home	4.67
POH	1.31 Same day discharge (66.6%)
Total length of hospitalization	



Total length of hospitalization

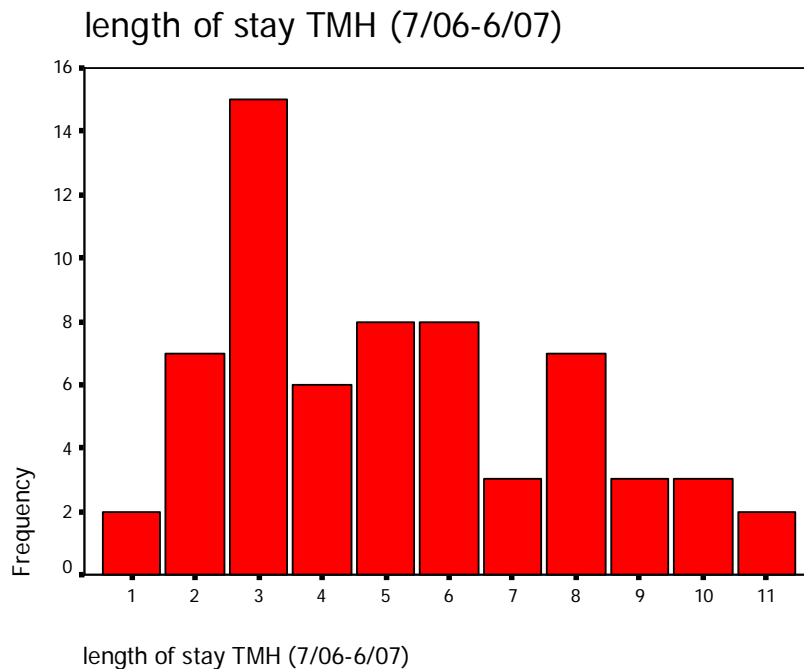
	Average no. of days
TMH	2.06
stay at home	4.67
POH	1.31 Same day discharge (66.6%)
Total length of hospitalization	3.37 (2.06+1.31)



Total length of hospitalization

Total length of hospitalization

- Before program:
(mean: 5.14 days)

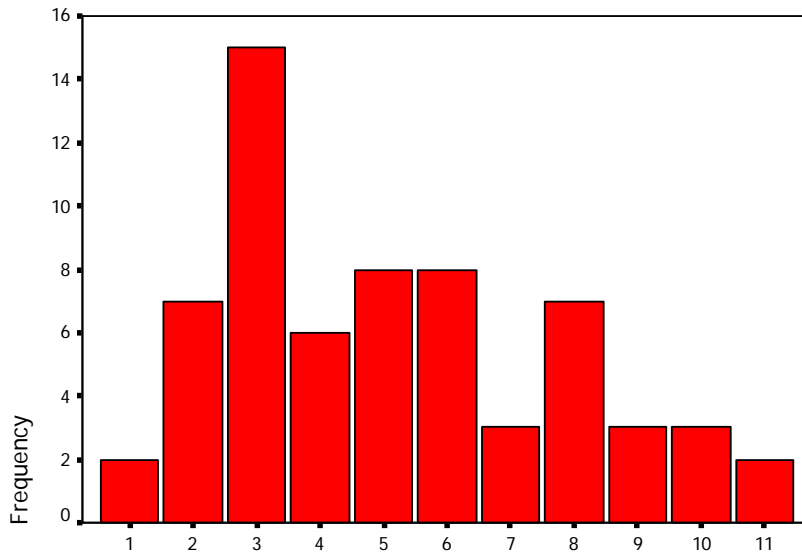


Total length of hospitalization

- Before program:
(mean: 5.14 days)

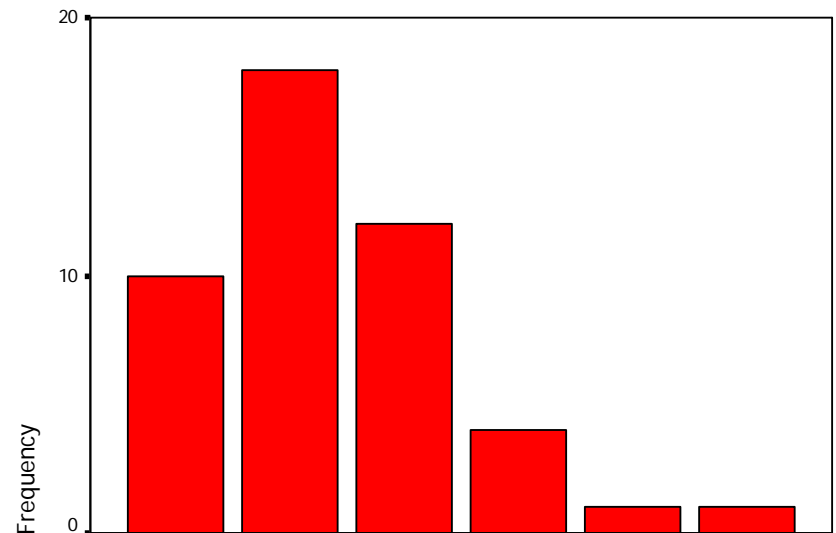
- After program :
(mean: 3.37 days)

length of stay TMH (7/06-6/07)



length of stay TMH (7/06-6/07)

total length of stay (TMH+POH)



total length of stay (TMH+POH)

Total length of hospitalization

One-Sample Statistics

	N	Mean	Std. Deviation	Std. Error Mean
LOS after program	46	3.37	1.12	.17

One-Sample Test

	Test Value = 5.14					
	t	df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
LOS after program	-10.696	45	.000	-1.77	-2.10	-1.44

Total length of hospitalization

One-Sample Statistics

	N	Mean	Std. Deviation	Std. Error Mean
LOS after program	46	3.37	1.12	.17

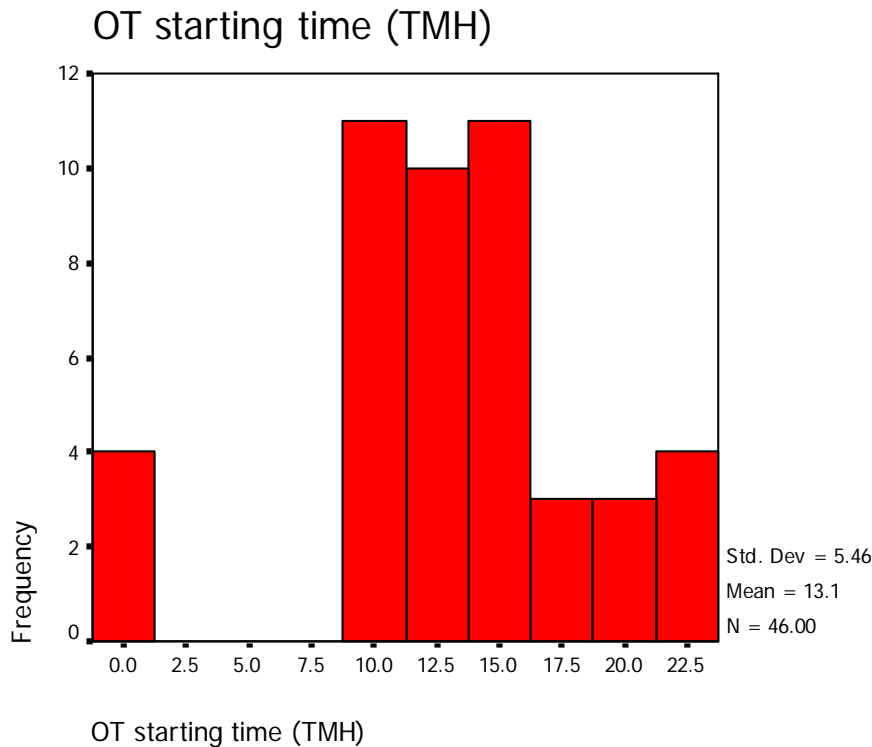
One-Sample Test

	Test Value = 5.14					
	t	df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
LOS after program	-10.696	45	.000	-1.77	-2.10	-1.44

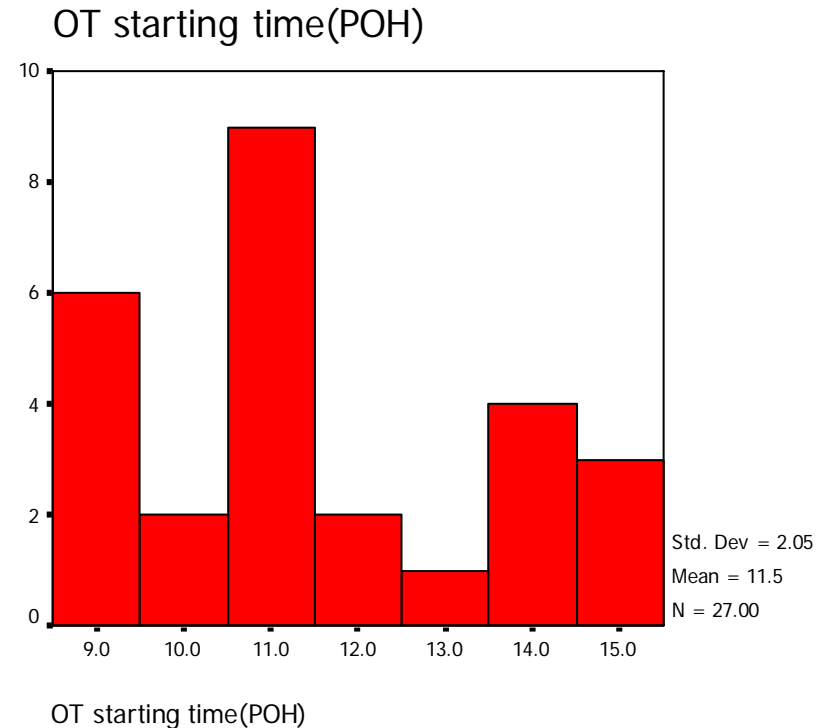
■ $P < 0.05$

OT starting time (by CDARS)

■ Before program

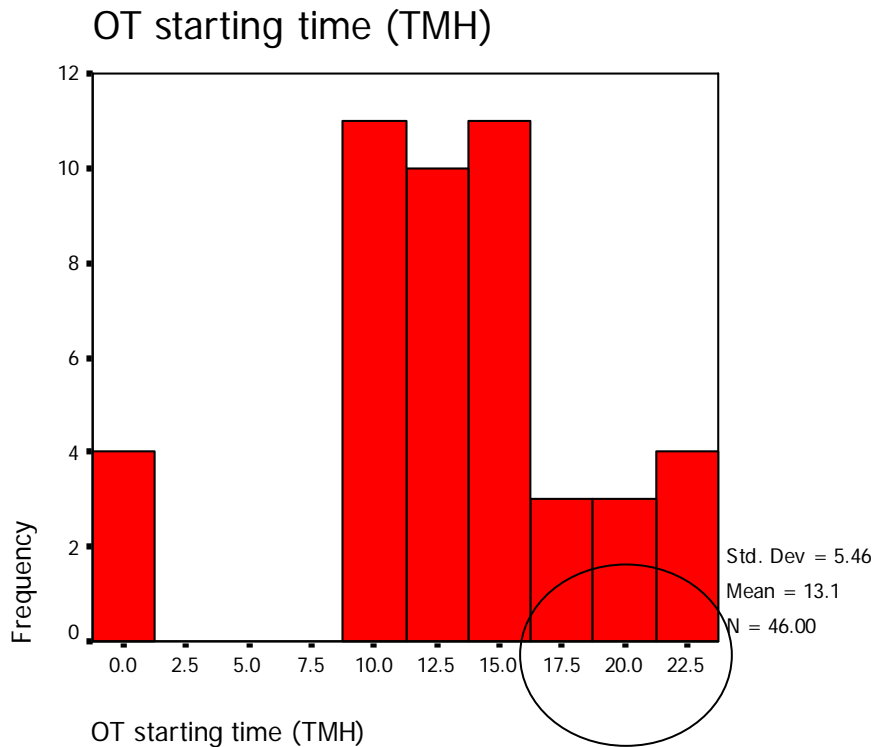


■ After program

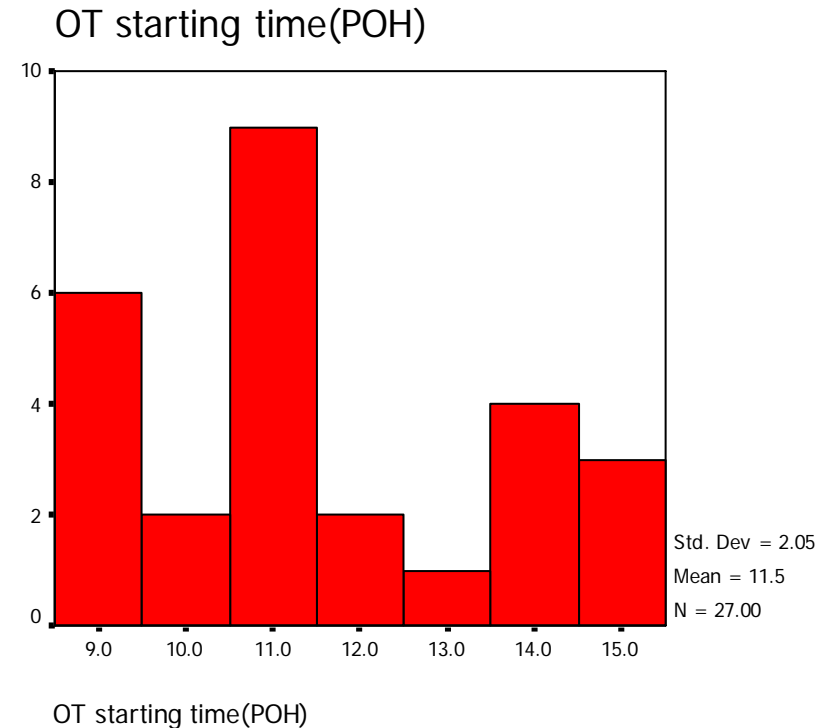


OT starting time (by CDARS)

■ Before program

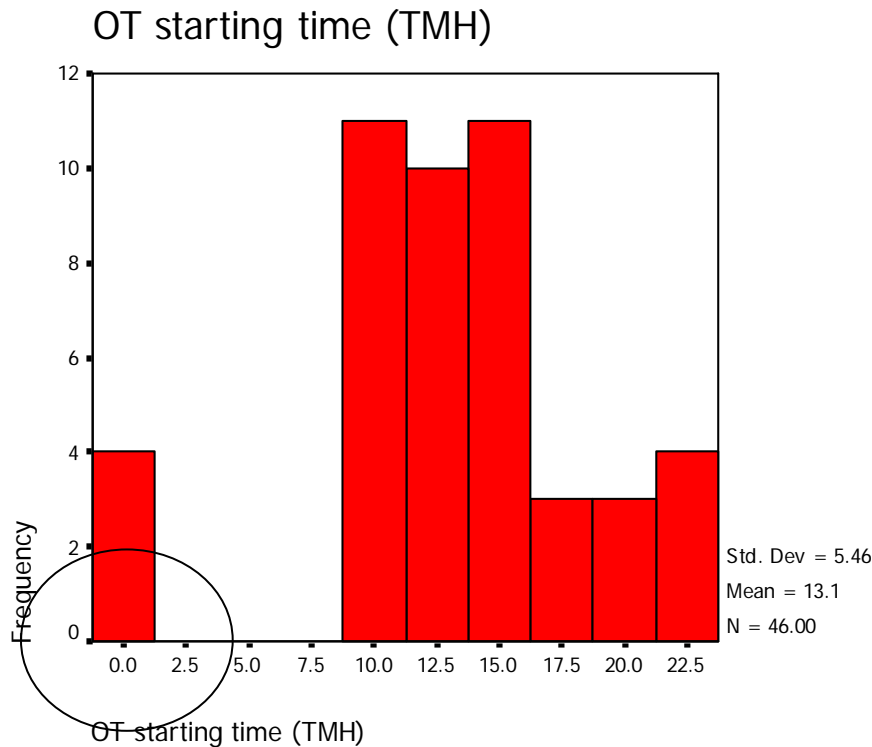


■ After program

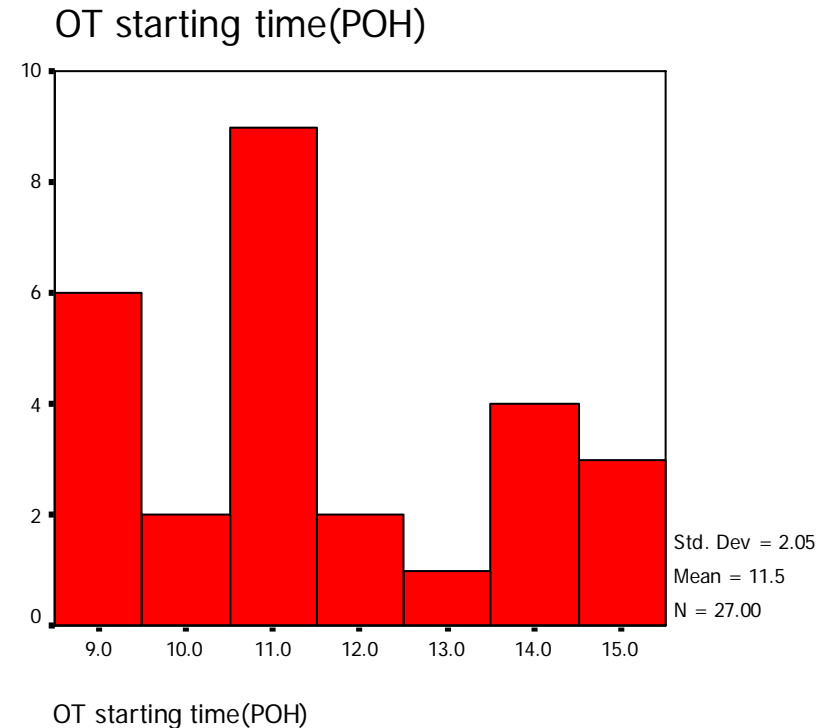


OT starting time (by CDARS)

■ Before program

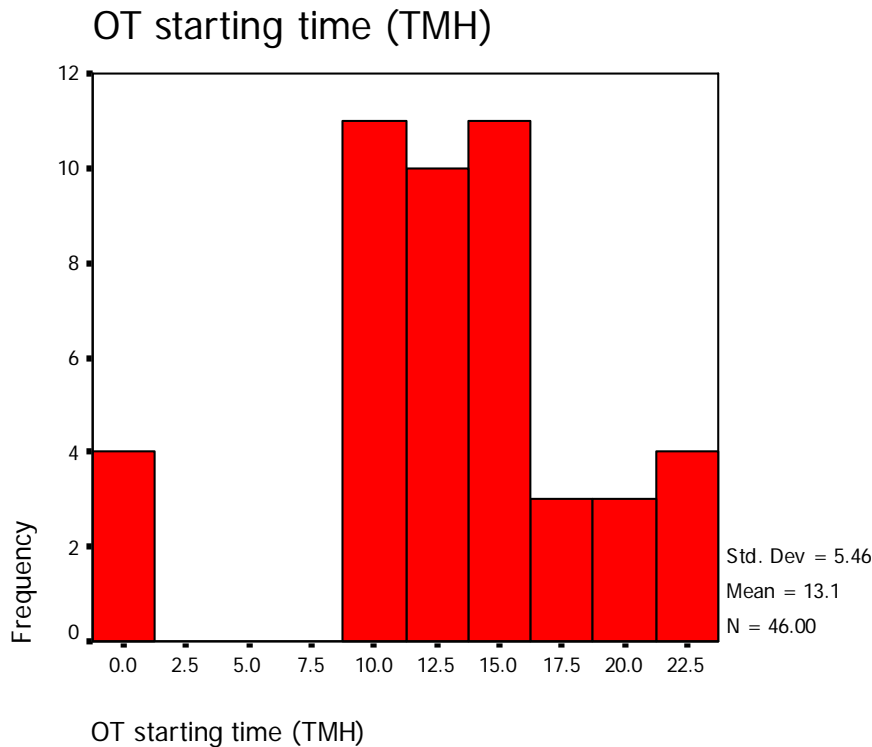


■ After program

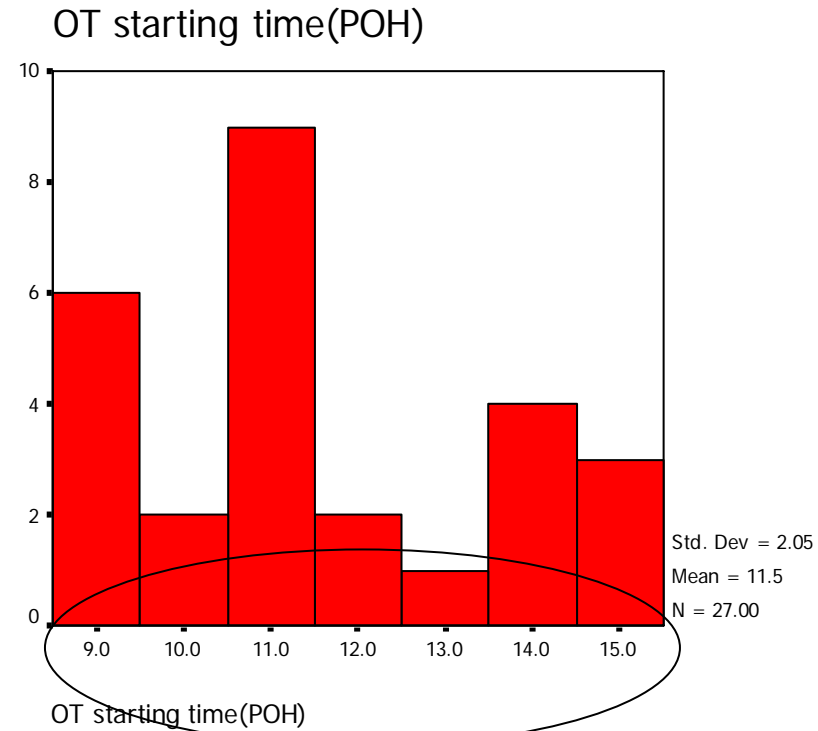


OT starting time (by CDARS)

- Before program



- After program





Peri-operative monitoring

	Pre-op	Post-op
Refuse arrangement		
Phone consultation		
Ward follow up		
Unplan admission		
Refuse OT		



Peri-operative monitoring

	Pre-op	Post-op
Refuse arrangement	1	
Phone consultation		
Ward follow up		
Unplan admission		
Refuse OT		



Peri-operative monitoring

	Pre-op	Post-op
Refuse arrangement	1	
Phone consultation	1	
Ward follow up		
Unplan admission		
Refuse OT		



Peri-operative monitoring

	Pre-op	Post-op
Refuse arrangement	1	
Phone consultation	1	
Ward follow up	1	
Unplan admission		
Refuse OT		



Peri-operative monitoring

	Pre-op	Post-op
Refuse arrangement	1	
Phone consultation	1	
Ward follow up	1	
Unplan admission	0	
Refuse OT		



Peri-operative monitoring

	Pre-op	Post-op
Refuse arrangement	1	
Phone consultation	1	
Ward follow up	1	
Unplan admission	0	
Refuse OT	1	



Peri-operative monitoring

	Pre-op	Post-op
Refuse arrangement	1	----
Phone consultation	1	1
Ward follow up	1	
Unplan admission	0	
Refuse OT	1	



Peri-operative monitoring

	Pre-op	Post-op
Refuse arrangement	1	----
Phone consultation	1	1
Ward follow up	1	0
Unplan admission	0	
Refuse OT	1	

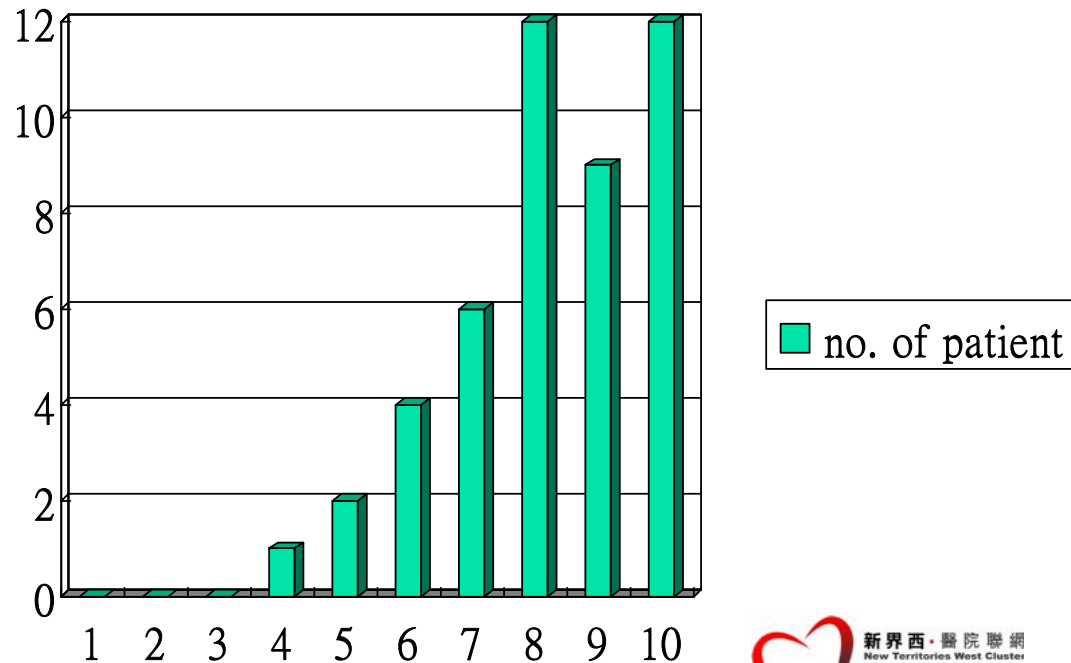


Peri-operative monitoring

	Pre-op	Post-op
Refuse arrangement	1	----
Phone consultation	1	1
Ward follow up	1	0
Unplan admission	0	0
Refuse OT	1	---

Patients' opinion

- Pre-op discharge arrangement:

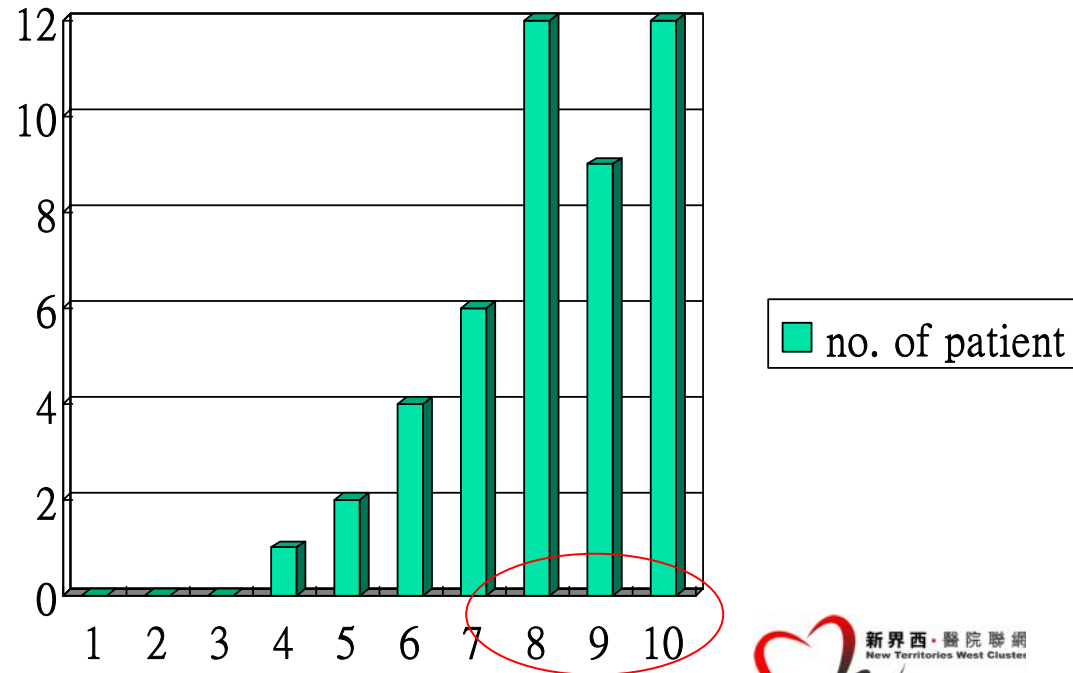


- Average:
(1-worst, 10- best)

Patients' opinion

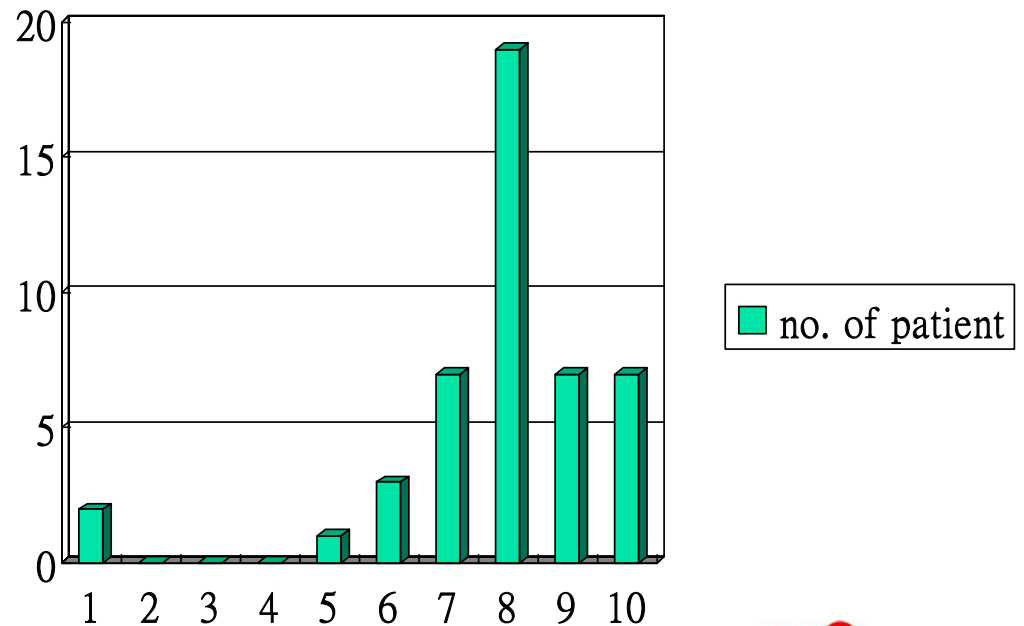
- Pre-op discharge arrangement:

- Average: **8.2**
(1-worst, 10- best)



Patient's opinion

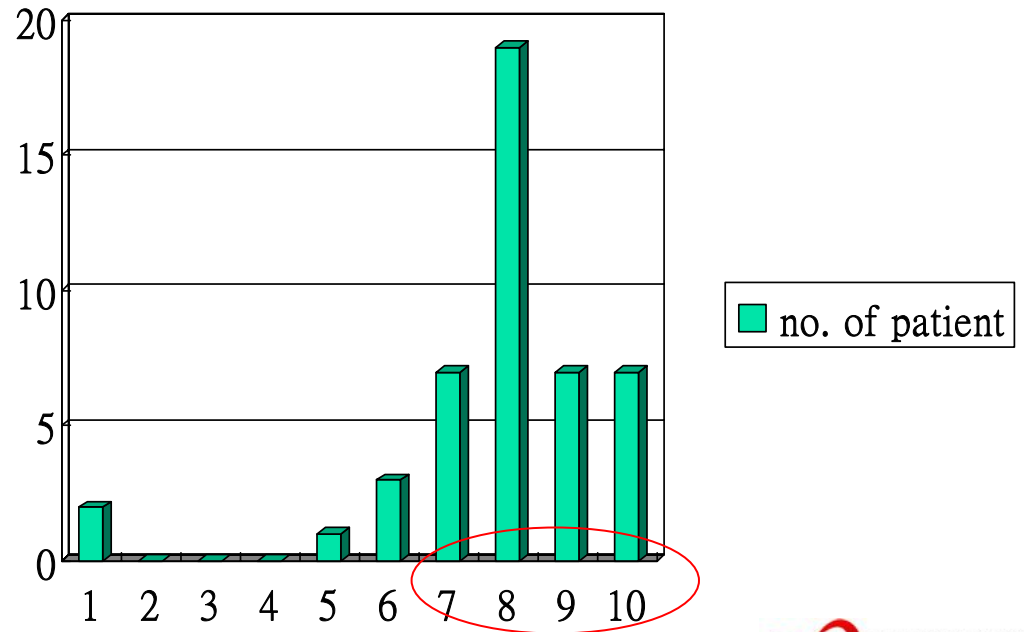
- Day surgery arrangement:



- Average:
(1-worst, 10-best)

Patient's opinion

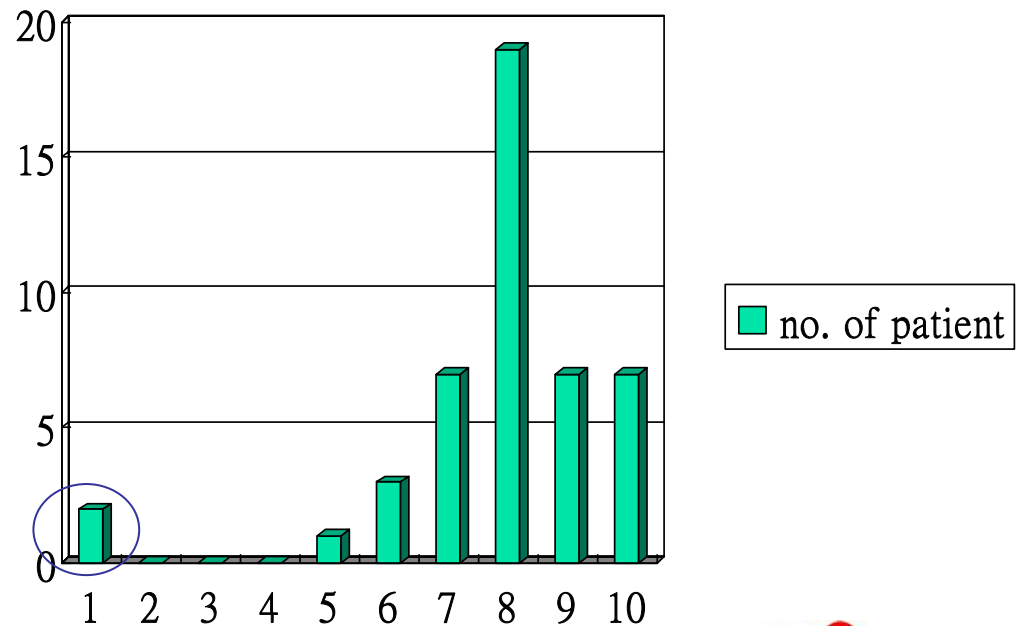
- Day surgery arrangement:



- Average: **7.8**
(1-worst, 10-best)

Patient's opinion

- Day surgery arrangement:



- Average: **7.8**
(1-worst, 10-best)



Patients' opinion

comments	No. of patient
Prefer OT in TMH	
Stay in TMH too long	
Waiting time too long	
instruction not clear	



Patients' opinion

comments	No. of patient
Prefer OT in TMH	3
Stay in TMH too long	
Waiting time too long	
instruction not clear	

Patients' opinion

comments	No. of patient
Prefer OT in TMH	3
Stay in TMH too long	2
Waiting time too long	
instruction not clear	



Patients' opinion

comments	No. of patient
Prefer OT in TMH	3
Stay in TMH too long	2
Waiting time too long	2
instruction not clear	

Patients' opinion

comments	No. of patient
Prefer OT in TMH	3
Stay in TMH too long	2
Waiting time too long	2
instruction not clear	1




Discussion





Discussion

Objective	Result
1) extend the concept of “day surgery service” to acute trauma care	
2) decrease the demand for emergency OT service especially at the night time	
3) optimize the usage of Day surgery center facilities in POH	
4) shorten the duration of hospital stay	




Discussion

Objective	Result
1) extend the concept of “day surgery service” to acute trauma care	
2) decrease the demand for emergency OT service especially at the night time	
3) optimize the usage of Day surgery center facilities in POH	
4) shorten the duration of hospital stay	





Discussion

Objective	Result
1) extend the concept of “day surgery service” to acute trauma care	
2) decrease the demand for emergency OT service especially at the night time	
3) optimize the usage of Day surgery center facilities in POH	
4) shorten the duration of hospital stay	

Discussion

Objective	Result
1) extend the concept of “day surgery service” to acute trauma care	
2) decrease the demand for emergency OT service especially at the night time	
3) optimize the usage of Day surgery center facilities in POH	
4) shorten the duration of hospital stay	

Discussion

Objective	Result
1) extend the concept of “day surgery service” to acute trauma care	
2) decrease the demand for emergency OT service especially at the night time	
3) optimize the usage of Day surgery center facilities in POH	
4) shorten the duration of hospital stay	



Some calculation

Shortened hospitalization duration in each patient	
Total hospital bed day saved within 4 months in those 46 patients	
Total hospital bed day saved in 12 months	
Assume \$3000/day, yearly saved	



Some calculation

Shortened hospitalization duration in each patient	$5.14 - 3.37$ $= 1.77\text{days}$
Total hospital bed day saved within 4 months in those 46 patients	
Total hospital bed day saved in 12 months	
Assume \$3000/day, yearly saved	



Some calculation

Shortened hospitalization duration in each patient	$5.14 - 3.37$ $= 1.77\text{days}$
Total hospital bed day saved within 4 months in those 46 patients	1.77×46 $= 81.42\text{days}$
Total hospital bed day saved in 12 months	
Assume \$3000/day, yearly saved	



Some calculation

Shortened hospitalization duration in each patient	$5.14 - 3.37$ $= 1.77\text{days}$
Total hospital bed day saved within 4 months in those 46 patients	1.77×46 $= 81.42\text{days}$
Total hospital bed day saved in 12 months	81.42×3 $= 244.3\text{days}$
Assume \$3000/day, yearly saved	

Some calculation

Shortened hospitalization duration in each patient	$5.14 - 3.37$ $= 1.77\text{days}$
Total hospital bed day saved within 4 months in those 46 patients	1.77×46 $= 81.42\text{days}$
Total hospital bed day saved in 12 months	81.42×3 $= 244.3\text{days}$
Assume \$3000/day, yearly saved	244.3×3000 $= \$732,700$



Patient safety



Patient safety

- selected by experienced surgeons



Patient safety

- selected by experienced surgeons
- **monitored** by experienced nurse



Patient safety

- selected by experienced surgeons
- monitored by experienced nurse
- **get help** directly (direct phone no.)



Patient safety

- selected by experienced surgeons
- monitored by experienced nurse
- get help directly (direct phone no.)
- **ward follow up** if needed



Patient safety

- selected by experienced surgeons
- monitored by experienced nurse
- get help directly (direct phone no.)
- ward follow up if needed
- **stay** in hospital post-op if needed (33%)



Recommendations

Recommendation	Actions
1) Expand the inclusion criteria	
2) Discharge from TMH earlier	
3) Shorten the waiting time	
4) Better patient communication	



Recommendations

Recommendation	Actions
1) Expand the inclusion criteria	lower limb fracture
2) Discharge from TMH earlier	
3) Shorten the waiting time	
4) Better patient communication	



Recommendations

Recommendation	Actions
1) Expand the inclusion criteria	lower limb fracture
2) Discharge from TMH earlier	Inform us to see patient earlier
3) Shorten the waiting time	
4) Better patient communication	



Recommendations

Recommendation	Actions
1) Expand the inclusion criteria	lower limb fracture
2) Discharge from TMH earlier	Inform us to see patient earlier
3) Shorten the waiting time	more OT sessions in POH
4) Better patient communication	



Recommendations

Recommendation	Actions
1) Expand the inclusion criteria	lower limb fracture
2) Discharge from TMH earlier	Inform us to see patient earlier
3) Shorten the waiting time	more OT sessions in POH
4) Better patient communication	More explanation



Summary

- Can we discharge the acute trauma patients while waiting for operation ?
- Can we manage the acute trauma patients in the Ambulatory Care Center ?



Summary

- Can we discharge the acute trauma patients while waiting for operation ?
Yes
- Can we manage the acute trauma patients in the Ambulatory Care Center ?



Summary

- Can we discharge the acute trauma patients while waiting for operation ?
Yes
- Can we manage the acute trauma patients in the Ambulatory Care Center ?
Yes



Acknowledgement



Acknowledgement

- Department of Anaesthesia and Intensive care, NTWC



Acknowledgement

- Department of Anaesthesia and Intensive care, NTWC
- Ambulatory Service Center, Pok Oi Hospital



Acknowledgement

- Department of Anaesthesia and Intensive care, NTWC
- Ambulatory Service Center, Pok Oi Hospital
- Operation Theatre, Pok Oi Hospital



Acknowledgement

- Department of Anaesthesia and Intensive care, NTWC
- Ambulatory Service Center, Pok Oi Hospital
- Operation Theatre, Pok Oi Hospital
- Hospital information and record office, Tuen Mun Hospital and Pok Oi hospital



Thank you
