

Workflow re-engineering & Instrument Sets Modification Had Increased Cataract Surgery Throughput

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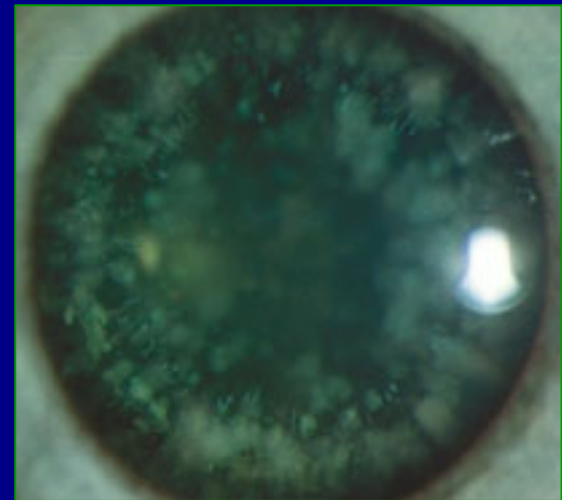
Anaesthesia & Operating Theatre Department, TKOH

Department of Ophthalmology, TKOH



Huge Demand for Cataract Surgery in KEC

- Waiting time could be as long as 9 years



Waiting List & Waiting Time

| Period | Waiting List | Notional waiting time (months) |
|---------|--------------|--------------------------------|
| 4Q 2008 | 9233 | 86.3 |
| 1Q 2009 | 9711 | 126.7 |



Aging Population in HK

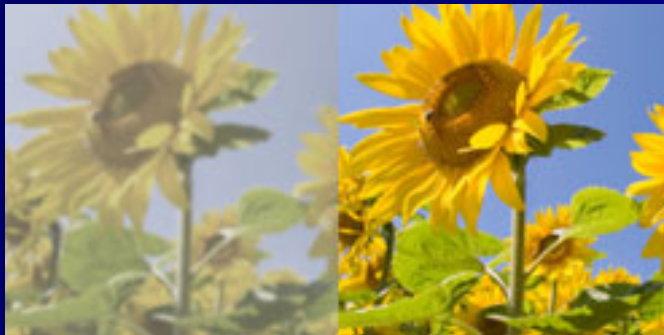
- In 2005, population age over 65 is 12.1%
- Expected to be double by 2029
- One in every five of our population will be aged 65 or above

(Census and Statistics Department, 2005)



What does cataract mean to the patient?

- Blurry vision
- Colors appearing faded
- Poor night vision
- Halos appearing around lights...



Can We Do Something?

Yes, we must !

BUT we have all the constraints

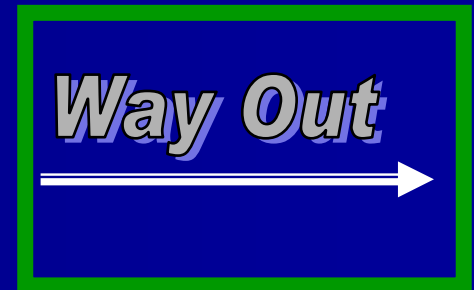
- Limited manpower
- Limited space
- Limited equipment
- Limited theatre sessions



Our Way Out...



- Work smarter
- Work faster
- Work better



Increase Surgery Throughput

- High Vol Cataract Surgery Workflow
- NHS guideline /w local modifications
(NHS Institute for Innovation & Improvement 2008)



Objectives

- Shorten cataract surgery waiting time
- Improve work efficiency & operation throughput
- Promote surgical safety
- Enhance quality of per-operative care & outcome of cataract surgery



Embark on High Volume Cataract Surgery

- Commissioning team led by
CCOS, Ophthalmology Dept
- Multi-units collaboration
 - Dept of Ophthalmology, UCH/TKOH
 - Ambulatory Surgery Centre, TKOH
 - Anaesthesia & Operating Theatre Dept, TKOH
 - SOPD, UCH
 - SOPD, TKOH
 - Finance Dept, UCH/TKOH
 - NSD, UCH
 - NSD, TKOH



Increase Case Load in TKOH

- 900 additional cases in KEC per year
- All 900 cases to be performed in TKOH



Ambulatory Surgery

- All cases done as ambulatory
- 2 whole day sessions added
- 10 operations each day
- Patients admitted to ASC in 2 lots
 - am session – 6 cases
 - pm session – 4 cases



Improving efficiency

- Enhancing team work
- Workflow re-engineering
- Smart use of instrument & equipment
- Use of electronic patient record system



Team Work – Cluster Level

- UCH and TKOH worked hand-in-hand
 - Pre-op patient assessment
 - Post-op patient follow up
 - Pharmacy support



Team Work – Peri-op Care

- OT nurses & ASC nurse work as one team
- Primary Nursing implemented



Increased Surgical Safety



- Primary nurse performs IOL checking and time out together with OR Team



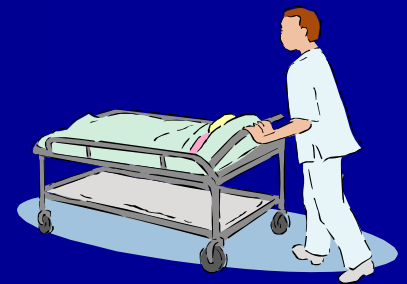
Streamline Patient Transfer

ASC ↔ OT

ASC send patient to OT direct

ASC 1° Nurse performs immed pre-op care in OT

1° Nurse returns to OT to escort pt back to ASC



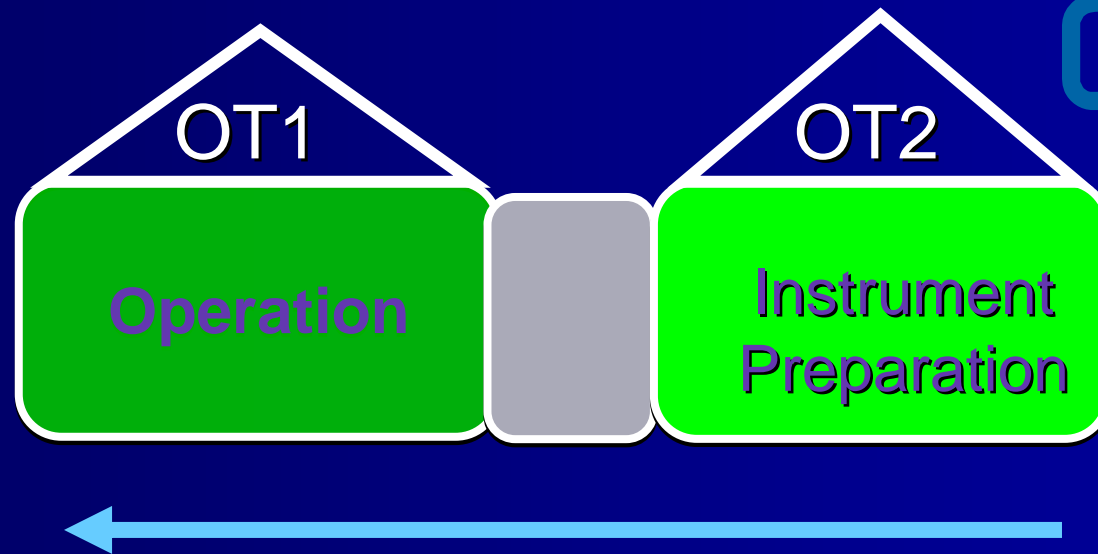
Reduced Traveling Distance

- Eye OR next to ASC
- Shortened transport time



Instrument Ready Just-in-time

- Use of twin theatres to save time
 - One for instrument preparation
 - One for operation



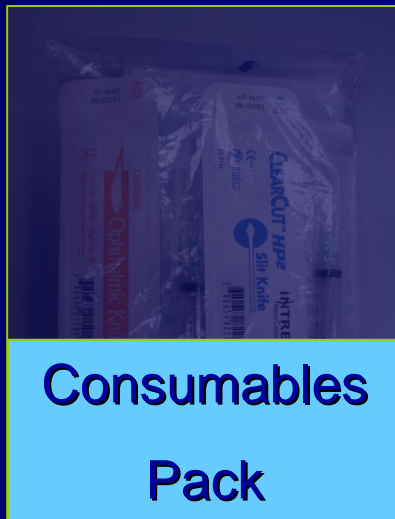
Simplify instrument sets

- Re-design instrument sets
- Ready-to-use layout



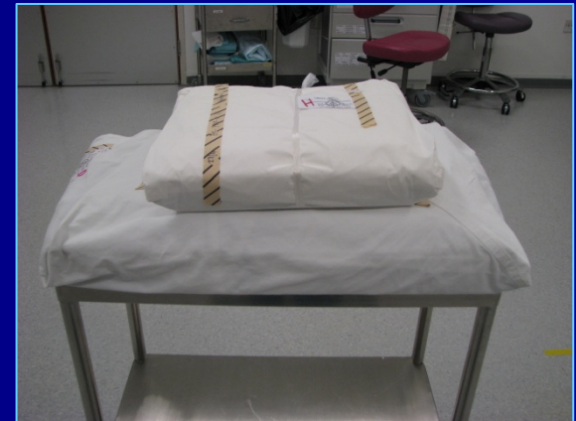
Ready-to-use Consumables

- Standardized
- Pre-packed




Improve Instrument Flow

- TSSU delivers pre-packed instrument trays to theatre by **"auto refill"**
- Prompt removal of used instrument by at end of OT



Efficiency in Intra-op Care

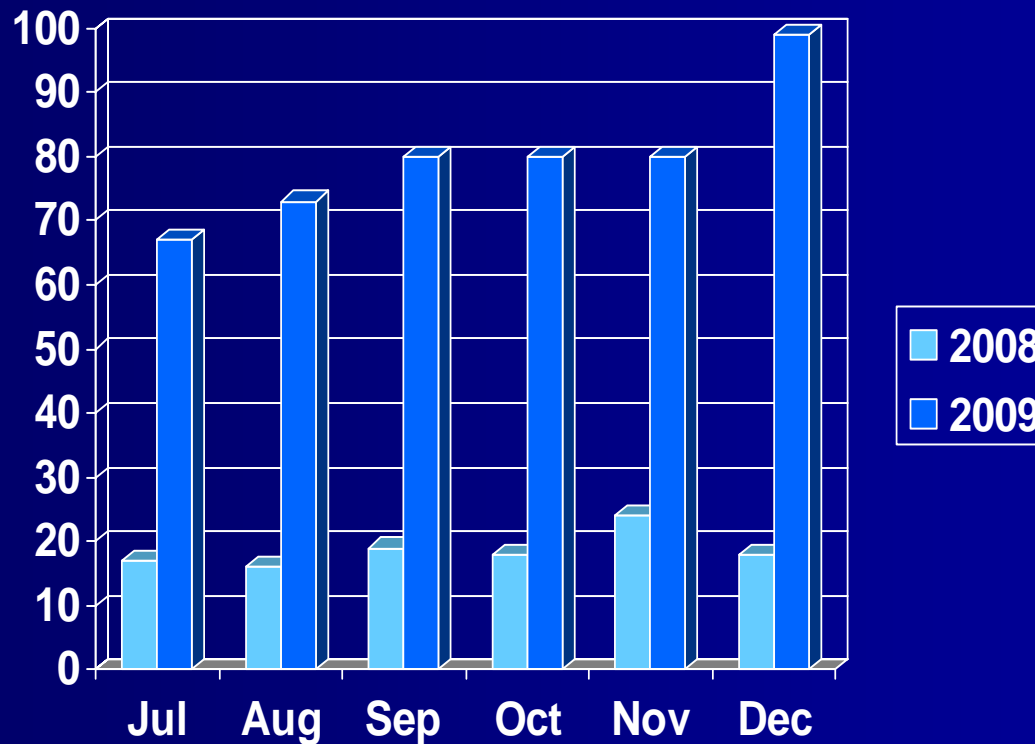
- Set up electronic patient monitoring & medical recording system

| DEPARTMENT OF ANAESTHESIA & OT SERVICES | | Hospital Authority, Tseung Kwan O Hospital | |
|---|-----------------------------------|---|--|
|  | | Anesthesia Record | |
| | | Name: Chan Chan Chan ID No.: HK123456 Dept.: Ophthalmology Ward/Div.: ASC Date of Operation: 08.03.2010 | Hospital No.: HN123456 Sex: Male Age: 20 y |
| PREOP DIAGNOSIS IC (Cataract (LE)) Kataract (LE) | | PLANNED PROCEDURES 1 Phaco + Op. (LE) (Phaco + IOL (LE)) | |
| PATIENT AND ADMISSION INFORMATION ASC | | Book Type: Elective | |
| INFECTION CONTROL MEASURES Standard Precautions | | PRE-OP CONDITION Co-operative ✓ Operation Site Marked ✓ Oriented ✓ Skin Intact ✓ | |
| MODE OF ANESTHESIA 1. LA | | | |
| Details: | | | |
| GAS & VENTILATOR O2 flow nasal: 2 L/min Supplemental O2 by Nasal cannula | | MONITORS & EQUIPMENT Equipment Phaco System Stellaris A Monitoring S/S AM | |
| PATIENT POSITION & PROTECTION 10:39 Position Supine | | Arm guard applied ✓ Body alignment checked ✓ Head ring in place ✓ Safety Strap Applied ✓ | |
| FLUIDS Fluids (irrigation): 300 mL Fluids out: 0 mL Fluids bal: 300 mL | | CONDITION ON LEAVING OT Breathing: S/R Good Color: Pink Conscious State: Awake | |
| EVENTS | | | |
| Sharps & Instrument count correct ✓ | | | |
| TIMING | | | |
| Anesthesia start: 09:12 | Anesthesia Ready: Incision start: | Anesthesia end: Surgery end: 09:39 | |
| PERSONNEL | | | |
| Anesthesiologist(s): | | | |
| Surgeon(s): Dr. TANG Wai-tat Wilson | | | |
| Circulating nurse(s): TO Siu-Foon Kathy | | | |
| Scrub Nurse(s): WONG Oi-Chu | | | |
| E-Signature: TO Siu-Foon Kathy | | | |
| Report printed: 08/03/2010 10:51 | | Page 1/3 | |



Results

A Comparison of throughputs (2 whole day sessions added per week)



Improved Turn Around Time

- Turn around time reduced by 66.1%

| Period | Jul-Dec 08 | Jul-Dec 09 | Time Reduced |
|--------------------------|------------|------------|------------------|
| Average Turn around Time | 8 mins | 2.7 mins | 5.3 mins (66.1%) |



Mission Accomplished?



Ensured Patient Satisfaction

■ Patient Satisfaction Survey

- 113 feedback forms collected
- 100 completed forms received
- 13 were incomplete and discarded
- Negative feedbacks – Nil

Overall Comments

| | | |
|-----------------|------|-----------|
| N=100 | Good | Very Good |
| Total feedbacks | 46 | 54 |



Key to Success



- Maximize use of available resources to add value to work
- Staff enjoy involving in the project
- A mission to promote client's health



Conclusion

Workflow re-engineering & re-designing of instrument sets

- Increased surgery throughput
- Improved work efficiency
- Promoted care quality
- Enhanced patient safety
- Ensured patient satisfaction



The Journey Had Just Started





Instrument
Checking

We are happy to continue..

Eye Operating Theatre

Thank You!

Special thanks to
Dr Kenneth Li (CCos, Ophthalmology, KEC)

&

Colleagues of
Ophthalmology Department, UCH & TKOH;
Eye Centre, QMH; SOPD UCH; SOPD TKOH;
ASC TKOH; A&OT Dept TKOH

