

To Improve Transporting Nasoendoscope Within ENT Clinic.

Ng, H. C., Azman, K. & Tan-Ho, Y. J.
Changi General Hospital

Introduction

With an increasing greying population and greater health awareness amongst the better educated, the burden of medical care falls heavily on the health institutions. One of the main challenges of healthcare has always been keeping healthcare cost low. In order to keep healthcare cost low, we strive to find ways to manage our cost more efficiently.

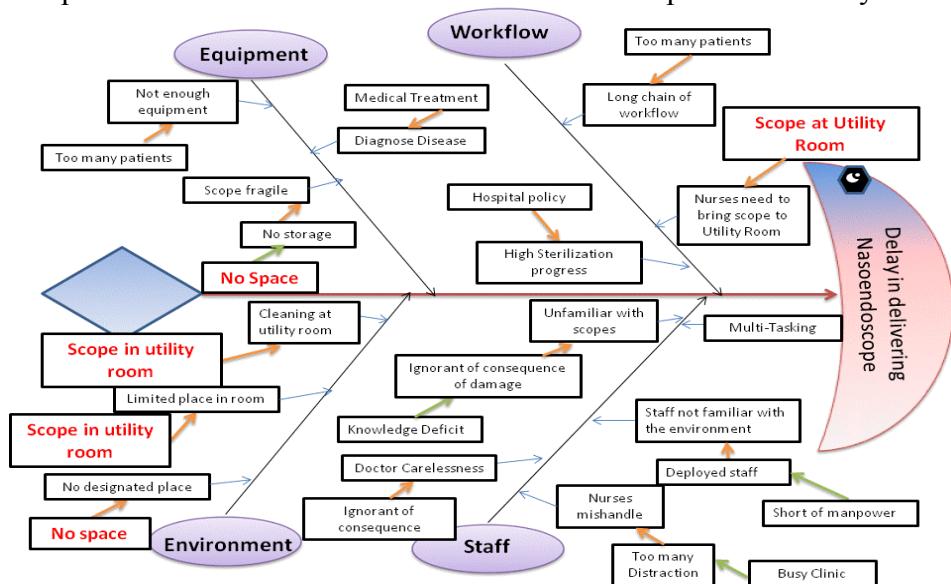
Methodology

A workflow process of time record was conducted to study the time taken for nurses to prepare the nasoendoscopes. As shown on the flow chart, nurses took an estimated 600 seconds to prepare 5 nasoendoscopes.

| Step | Activities Before | Symbol | Total Time |
|-------|---|--------|--------------------|
| A | Preparation of tub for placing of Nasoendoscope. | ☐ | 125 seconds |
| B | Wiping of Nasoendoscope after disinfecting process. | ☐ | 100 seconds |
| C | Gently coiling the Nasoendoscope and placing it in the tub. | ● | 90 seconds |
| D | Transport the tub with Nasoendoscope to consultation room. | ➔ | 285 seconds |
| Total | | | 600 seconds |

Legend: Inspection/Operation: ● Operation: ☐ Delay: ◻ Transport: ➔

A Relations Diagram was used to analyze what led to 'Delay in delivering the nasoendoscope.' The root cause identified is the lack of space in the consultation room and nasoendoscopes in the utility room.



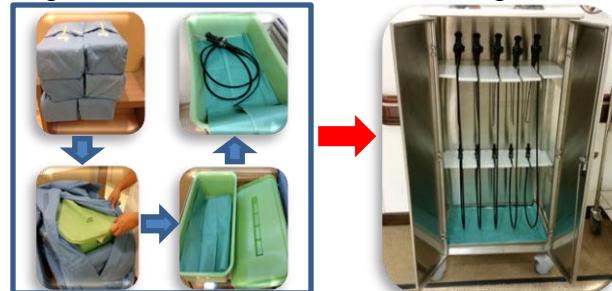
Four solutions were proposed to solve the root causes:

| | | | |
|--|---|---|---|
|  |  |  |  |
| Hanging at camera system | Install a cabinet | A portable bag/case | A mobile trolley |

A Tree Diagram was used to select the ideas for implementation and the Mobile Trolley was selected.

Results

After implementation, the workflow has improved:



| Step | Activities Before Implementation | Symbol | Total Time | Activities After Implementation | Symbol | Total Time |
|-------|--|--------|--------------------|---|--------|--------------------|
| A | Preparation of tub for placing of Nasoendoscope. | ☐ | 125 seconds | Preparation of mobile trolley for Nasoendoscopes. | ☐ | 20 seconds |
| B | Wiping of Nasoendoscope after disinfecting process. | ☐ | 100 seconds | Wiping of Nasoendoscope after disinfecting process. | ☐ | 100 seconds |
| C | Gently coil the Nasoendoscope and place it in the tub. | ● | 90 seconds | Gently hang Nasoendoscope in the mobile trolley. | ● | 30 seconds |
| D | Transport the tub to consultation room. | ➔ | 285 seconds | Transport the mobile trolley to consultation room. | ➔ | 60 seconds |
| Total | | | 600 seconds | Total | | 210 seconds |

An average of 40 Nasoendoscopes performed in ENT clinic per day. (Total of 8 cycles)

A total saving time: 6.5minutes x 8 cycles = **52minutes**

With the trolley implemented, using of the tubs were omitted.

Per day saving as shown:

| Number of tubs used | 1 tub | 10 tub (5 tubs each for morning & afternoon session) |
|---------------------------------|----------------|---|
| Cost of the sterilizing | \$9.50 | \$95 |
| Cost of the sterile paper towel | \$1 | \$10 |
| Total | \$10.50 | \$105 |

\$31,500* per year without using the tub and sterile paper. After deducting the cost of the mobile trolley \$1200, \$31500 - \$1200 = **\$30,300.** (first year saving)

* Based on clinic operating days of 300 days per year.

Conclusion

With the introduction of this mobile trolley, it not only reduces our carbon footprint, but also creates monetary savings and workflow efficiency for our hospital.