

DISPOSABLE LINENS
IN THE RESEARCH LAB

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SUBJECT: Disposable Linens in the Research Lab

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As part of the overall study of the use of disposable linens in the hospital, an analysis has been made for the use of disposable linens in the research lab.

Project Objective

The objective of this project is to determine the related advantages and disadvantages involved in the present and proposed systems of research lab laundry handling, and to recommend the best possible system. It is especially important to design a system that will eliminate the problem of dog hair in the laundry.

Summary

An analysis has been made to determine if using disposables will overcome laundry problems, the additional cost involved in using a disposable (or semi-disposable) system, and to discuss the feasibility of such a system.

Additional Yearly Cost. A system of using disposable items only where needed (where dog hair is on items, since contamination can be eliminated by ordinary contamination washing or sterilization) requires four such disposable items. The additional yearly cost over the present system would be about \$732.00. These disposables have been (or will be) ordered and are also being tested.

Feasibility. The semi-disposable system adequately fills the need of the research lab and will reduce the laundry inconvenience.

Background

The objective of the linen system used in the research lab is to supply all sterile and non-sterile items for experimental operations on dogs.

The reason for this analysis is the fact that the linens used in the research lab require special treatment in the laundry in order to remove excess dog hair and contamination. This is not only an inconvenience, but also comes spasmodically and thus adds to the work load scheduling problem in the laundry.

Present system data is based on research bundles now in use and problems as reported by the laundry. Proposed system data is based on an average usage rate as supplied by the research lab attendant, Mr. John Crisman, and disposable cost information as supplied by Kimberly-Clark Corporation and Convertors, Incorporated.

Present System

The existing system involves performing approximately 150 research operations per year. Each operation requires the use of the following laundry items:

- 1) 2 non-sterile 44" x 60" surgery sheets.
- 2) 3 sterile operating gowns.
- 3) 5 scrub suits, including masks but no shoe covers.
- 4) 1 Research Lap Bundle, (sterile) including:
1 Mayo Cover, 1 Roll Lap Pack, 4 Bundle Sheets,
1 Foot Sheet, 1 Lap Sheet, 1 Linear Large Sheet
1 Long Sheet, 6 Sponges (4 x 4), 1 X-Ray Sponge,
10 Towels, 1 Mayo Towel, 1 Research Wrapper. (Used
50% of the time)

or:

- 1 Small Research Bundle, (sterile) including:
1 Mayo Cover, 1 Rolls Lap Pack, 4 Bundle Sheets,
6 Sponges (4 x 4), 6 Towels, 1 Mayo Towel, 1 Small
Wrapper. (Used 50% of the time)
- 5) Additional supplies are required, such as scrub

towel bundles and instrument bundles, but these shall not be considered in this report for disposable replacement.

There are some problems involved with the present system of laundering the research linens:

- a) The linen requires extra handling in the laundry because of the dog hair and contamination. The bulk of the hair is found on the two non-sterile surgery sheets (44" x 60"), the scrub suit used by the lab attendant in shaving and handling the dogs, and on the draping linens used in operations.
- b) The laundry must use a 190°F wash cycle plus an alkali in order to dissolve dog hair. All items used in the lab that do not gather dog hair still require a contamination wash cycle (170-180°F.); these are items such as operating gowns and scrub suits.
- c) Although scrub suits are supplied by the lab, several of the people involved wear suits from the main hospital and return to the hospital with the contaminated suit following the operation. Only about 50% of the personnel change into and out of scrub suits in the lab building.

Proposed System

Within the last two months, Convertors, Inc. has come out with a small laparotomy sheet that should help solve our problems. As a result, a system that will eliminate the present dilemma is to:

- 1) Use for each operation, the following disposable items:
 - a) 1 Sterile laparotomy sheet, 72" x 90", 2 1/2" x 8" fenestration - to be supplied by Convertors, Inc.
 - b) 1 Non-sterile isolation gown to be worn by

the lab attendant when shaving and handling the dogs - to be supplied by Kimberly-Clark Corporation.

- c) 2 Non-sterile half sheets, 40" x 71", one for the operating table and one for the shaving table.
 - d) 4 Sterile non-absorbant towels, 22" x 26", for draping - to be supplied by Convertors, Inc. in packages of two.
- 2) Require all personnel entering the research lab operating room to leave contaminated scrub suits in the lab as they leave. According to Dr. Britt, all of these suits should be run through the contaminated wash cycle since they are not sterilized.
 - 3) Require no special treatment for operating gowns and accompanying towels. These are all sterilized and require only the regular wash cycle.
 - 4) Require the sterile linen room to make a special bundle for each operation to include: 1 Mayo Cover, 1 Roll Lap Pack, 6 Sponges (4 x 4), 1 X-Ray Sponge, 1 Mayo Towel, 1 Small Wrapper.

Additional Yearly Cost. The proposed system would require the following additional costs:

<u>Items Per Operation</u>	<u>Items Per Year (150 Operations)</u>	<u>Unit Cost</u>	<u>Cost Per Year</u>
1 Sterile Laparatomy Sheet ¹	150	\$3.50	\$525.00
1 Non-sterile Isolation Gown ²	150	\$.26	39.00
2 Non-sterile Half Sheets ³	300	\$.20	60.00
4 Sterile Non-absorbant Drape Towels ⁴	600	\$.18	<u>180.00</u>
TOTAL PER YEAR			\$732.00

¹ Convertors, Inc.	Code # 8416 G	\$69.95 (case of 20)	\$3.50 ea.
² Kimberly-Clark Corp.	Code # 6785-20	\$25.55 (case of 100)	\$.26 ea.
³ Kimberly-Clark Corp.	Code # 6777-20	\$20.10 (case of 100)	\$.20 ea.
⁴ Convertors, Inc.	Code # 7551 G	\$35.20 (case of 100 pkg. of 2)	\$.18 ea.

This total yearly figure of \$732.00 can be reduced by a few dollars (not more than \$30) since most of the operations are performed in groups of three (student research), and thus only one isolation gown and four half sheets (3 operating tables and only 1 shaving table) are needed for three operations.

Most of these disposable items have been ordered, and some are in use. The supply will last about two or three months.

Feasibility. All of the new items have been used experimentally in the research lab. The doctors feel that they are adequate, especially since:

- 1) They save extra and irregular handling in the laundry, and
- 2) They are less bulky than the regular linen.

The reduction of the inconvenience in the laundry and the lab should be worth the added cost.

Conclusions

The proposed system should overcome the problem of dog hair in the laundry. Running scrub suits through a contaminated wash cycle is no problem since this is done anyway in many cases. It seems that there will be a problem of getting everyone to leave their scrub suit in the lab as they leave. Most of the students will do this anyway, but there are several of them that work on floors upstairs that will not, and doctors that are instructing or performing their own research will not. It would be unreasonable to require an instructing doctor to change, but everyone else should be required to do so.

As stated before, the reduction of inconvenience in the laundry should be worth the extra cost of \$732.00 a year to use disposables. The system will remain on trial for the next few months until everyone is well oriented and all problems are ironed out.

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Conversation w/ Don Sullivan re dog lab

1. Dog hair problem on linen to be eliminated by use of disposable linen.
2. Laundry uses 190°F + alkali to dissolve dog hair
3. Scrub gowns all sterilized - no problem - can be run thru contaminated ^{or regular} ~~and regular~~ cycle with regular surgery scrub gowns and then autoclaved
4. Scrub suits ^{from surgery} not routinely sterilized. May be run thru regular cycle of laundry or thru contaminated laundry cycle.
5. Scrub suits from dog lab should be run thru contaminated wash cycle ($170-180^{\circ}\text{F}$)

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