

Incident Report

REPORTED

BY: Dr. Scott DATE OF REPORT: 12/09/2018
TITLE /
ROLE: Hospital Administrator INCIDENT NO.: 99

INCIDENT INFORMATION

INCIDENT
TYPE: INEFFECTIVE WASHING DATE OF INCIDENT: 12/09/2018

LOCATION: DOWNTOWN GENERAL HOSPITAL

CITY: TORONTO PROVINCE: ON POSTAL
CODE: M8E 6Y2
SPECIFIC AREA OF LOCATION (if
applicable): across the entire hospital

INCIDENT DESCRIPTION

Soap when used with the water out of the tap is not lathering sufficiently. In addition, a precipitate/scum forms when the soap interacts with the water. The hospital garments are not able to be effectively cleaned in the machines, and the surgeons are not able to properly wash their hands before surgery.

NAME / ROLE / CONTACT OF PARTIES INVOLVED

1. Dr. Scott / Hospital Administrator
2. Dr. Shrute / Toxicologist
3. _____

FOLLOW-UP ACTION

A water test is required using equipment from the toxicology lab to determine whether these issues are being caused by the soap or by the hardness of the hospital's water supply. Results should be used to recommend corrective action.

SUPERVISOR
NAME: Dr. Scott

SUPERVISOR
SIGNATURE: 

DATE: 12/09/2018

The Downtown General Hospital has recently been having some trouble with the effectiveness of their washing protocols. This poses a serious problem as clothes and bedding cannot be properly cleaned and surgeons cannot effectively sanitize before surgery. The hospital is in a difficult position as the staff are all busy due to flu season. The hospital administrator has asked you to use the facilities of the toxicology laboratory and design a procedure to determine the origin of the problem. Determining the hardness of the water is the simplest way to identify if it is the detergent or water that is causing the issue. An example of the effect of hard water on the foaming ability of soap is shown below.



The toxicology lab is equipped with all the required apparatus and reagents to determine the level of hardness of the hospital's water. You are tasked with developing and carrying out an experiment to test water samples from the hospital for hardness. Using the reference table below, make a recommendation regarding the source of the problem. In your report to the hospital administrator you should include a clear explanation of your procedure, i.e. what reagents were used and why, calculations, and a final recommendation.

[Ca ²⁺] (mg/L)	Calcium Hardness	[Mg ²⁺] (mg/L)	Magnesium Hardness
0 - 14	Soft	0 - 3.6	Soft
14 - 28	Moderately Soft	3.6 - 7.2	Moderately Soft
28 - 56	Slightly Hard	7.2 - 14.4	Slightly Hard
56 - 84	Moderately Hard	14.4 - 21.6	Moderately Hard
84 - 126	Hard	21.6 - 32.4	Hard
126+	Very Hard	32.4+	Very Hard

Monks, N. *A practical approach to freshwater aquarium water chemistry*. (Online), <http://www.wetwebmedia.com/fwsubwebindex/fwh2oquality.htm> (June 26, 2018).

Table Adapted from http://braukaiser.com/wiki/index.php/How_to_read_a_water_report (accessed October 13, 2018)