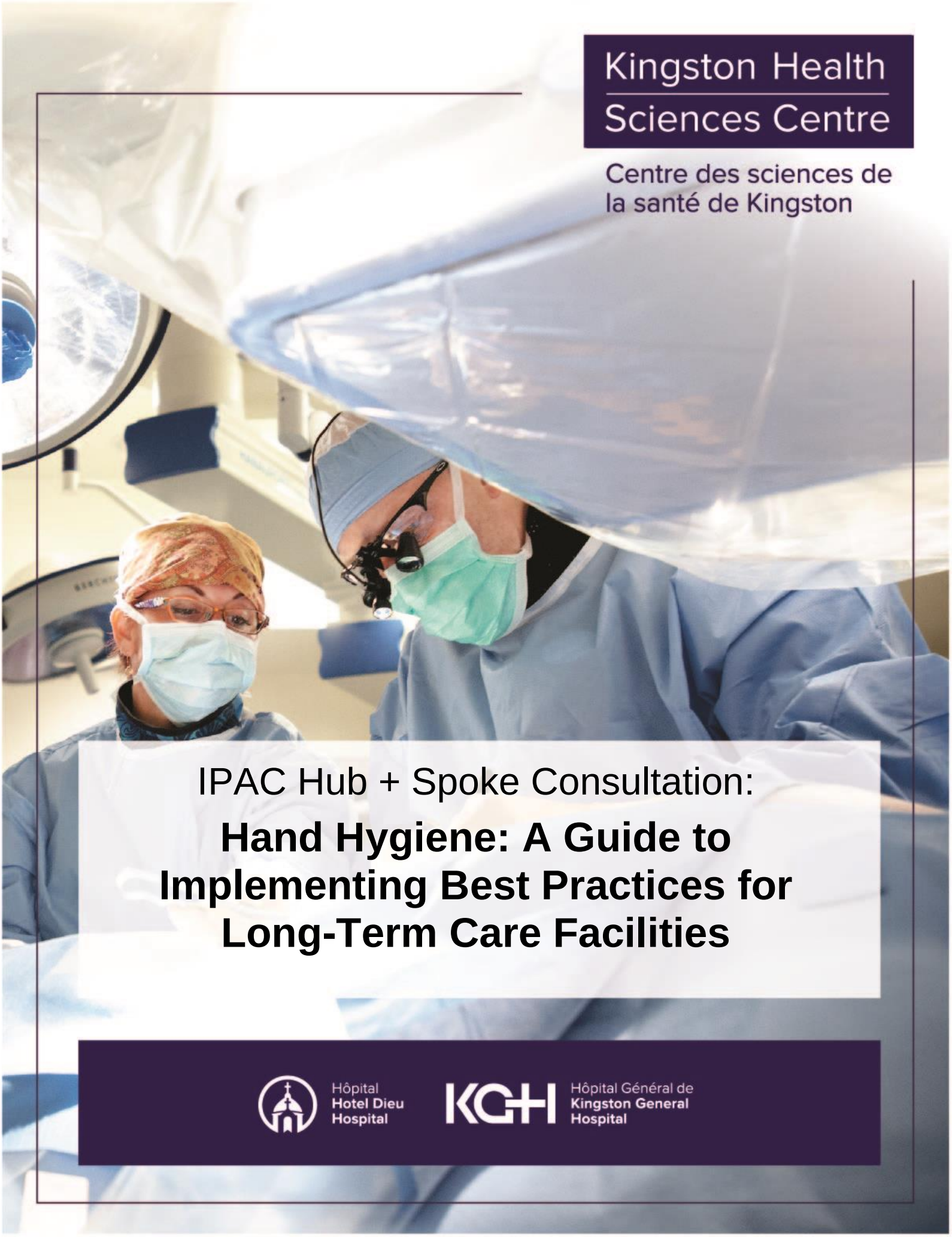


Kingston Health Sciences Centre

Centre des sciences de la santé de Kingston

IPAC Hub + Spoke Consultation:

Hand Hygiene: A Guide to Implementing Best Practices for Long-Term Care Facilities

Hôpital Hotel Dieu Hospital

Hôpital Général de Kingston General Hospital

Table of Contents

Introduction 4

Section 1 5

1.1 Commonly used Hand Hygiene Definitions 5

Section 2 7

2.1 Hand Hygiene Overview 7

2.2 Common Barriers to Practice 8

Section 3 10

3.1 The 4 Moments for Hand Hygiene: Rationale and Examples 10

Section 4.....11

4.1 Hand Hygiene Audits: Rationale..... 11

4.2 Conducting Hand Hygiene Audits 11

4.3 Hand Hygiene Audit Tool.....12

4.4 Combined Moments.....13

4.5 Calculating Hand Hygiene Compliance Rate 13

4.6 Feedback of Calculated Hand Hygiene Compliance 13

4.7 Overall Facility Hand Hygiene Compliance.....14

References.....15

Introduction

Welcome and thank you for taking the time to read this guide to implementing hand hygiene practices in long-term care facilities. The main purpose of this guide is to aid long-term care facilities in implementing, maintaining, auditing, and improving hand hygiene practices as observed using empirical, standardized methods.

Throughout this guide, you will learn;

- Common definitions related to hand hygiene practices
- Proper hand hygiene practices
- The scientific and epidemiological rationale for hand hygiene practices
- The 4 moments of hand hygiene and how they relate to auditing
- How to conduct a proper hand hygiene audit

Information surrounding hand hygiene can also be found in the KHSC intranet. The pathway is as follows;

Home > Patients, families and visitors > Visiting a patient > Hand Hygiene and Infection Prevention

Section 1

1.1 - Common Hand Hygiene Definitions

The following terms are defined in a way that is tailored to the LTC experience.

Alcohol-Based Hand Rub: Any liquid, gel, or foam with an alcohol content of 70% or greater used to sanitize hands of transient microorganisms.

Aseptic Procedure: A procedure where the absolute prevention of microorganisms from the healthcare provider, environment, or patient's/resident's own body into any sterile site (i.e. intravenous access, wound care, urinary tract, etc.) is prioritized and maintained.

Body Fluids: Blood, body fluid/tissue, vaginal secretions, seminal secretions, peritoneal fluids, saliva/sputum, nasal secretions, vomitus, urine, and feces.

Hand Hygiene: Practices which involve either killing or removing transient microorganisms from the hands to prevent their spread.

Hand Hygiene Audit: A process using direct observation from a trained hand hygiene auditor as a standardized method to record hand hygiene practices of healthcare providers in accordance with the 4 moments of hand hygiene.

4 Moments of Hand Hygiene: Essential moments which indicate the need for hand hygiene, based on the risk of transmitting microorganisms when a healthcare provider interacts with a patient/resident or their environment.

- Moment 1 – Before contact with a patient/resident or their environment
- Moment 2 – Before clean or aseptic procedure
- Moment 3 – After exposure or risk of exposure to body fluids
- Moment 4 – After contact with a patient/resident or their environment

Hand Hygiene Observation/Opportunity: A moment of hand hygiene which was or was not performed observed by a trained hand hygiene reviewer. This is used for the auditing of hand hygiene compliance.

Hand Hygiene Compliance: Measurement of success of a facility or departments use of the 4 moments in practice. Hand hygiene compliance is calculated by

dividing the number of compliant observations by the total number of compliant and non-compliant observations recorded by a trained hand hygiene reviewer during an audit.

Healthcare Provider: Any person who provides healthcare related goods and services to a patient/resident. This includes all healthcare professionals, staff, students, volunteers, and other persons acting on behalf or in collaboration with the facility.

Resident: Commonly refers to an individual who lives at a long-term care facility, such as a retirement or nursing home.

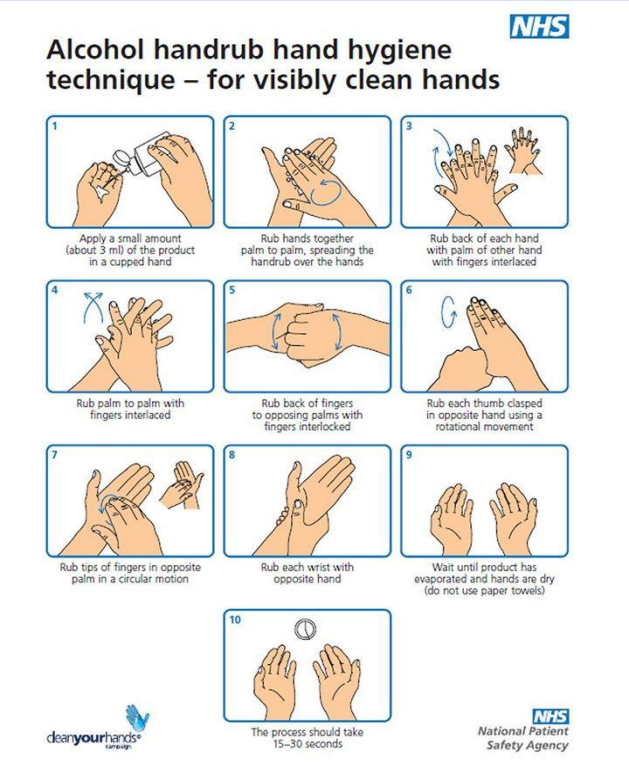
Section 2

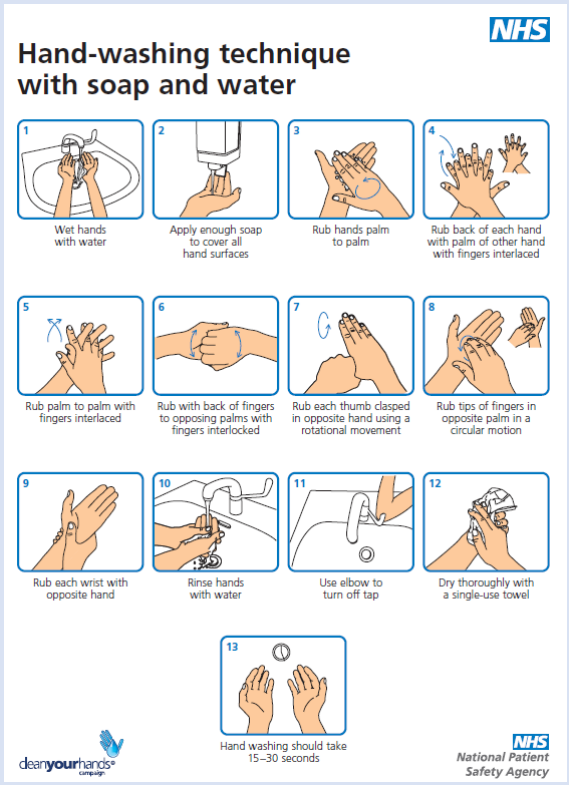
This section will explain the science and rationale behind hand hygiene.

2.1 - Hand Hygiene: An Overview

Hand hygiene is the single most effective way of preventing the spread of communicable diseases and infections when performed correctly. There are two acceptable forms of hand hygiene;

- Alcohol-based hand rubs quickly kill transient microorganisms on the hands, stopping microbial activity from causing infection and/or disease. Hand rubs should be of 70% alcohol content or greater. This method is preferrable when hands are not visibly soiled as it is quicker than washing one's hands with soap and water. Most hand rubs contain emollients to prevent dryness.
- Soap and water remove transient microorganisms altogether from the hands. This method is preferrable when hands are visibly soiled. Warm water, not cold or hot, should be used to wash hands to prevent dryness.
- Both methods require applying hand rub or lathering the hands for 15-20 seconds.
- Hand Hygiene should always be performed after removing gloves and other forms of Personal Protective Equipment (PPE).





Diagrams displaying the correct motion for lathering hands, using either soap and water or an alcohol-based hand rub. Retrieved from https://www.hey.nhs.uk/patient-leaflet/hand-hygiene-information/

2.2 - Common Barriers to Practice

While hand hygiene is a quick and easy practice, there are common barriers to practice seen in long-term care facilities which increase the risk of transmission of microorganisms.

Barriers to Practice	Proper Practice	Rationale
Washing hands for less than 15-20 seconds	Wash hands for at least 15-20 seconds	Ensures antimicrobial action of chosen method is complete
Only paying attention to palm and back of hands when lathering	Wash all parts of the hands, including between fingers, around thumb, in	Ensures maximum removal of transient bacteria found on hands

	and around nails, and wrists	
Turning off taps with hands	Turn off with paper towel used to dry hands	Prevents microorganisms on taps from transferring to hands
Using common hand towels to dry hands	Use disposable paper towel	Common hand towels harbour microorganisms which can be spread – disposable paper removes this risk
Overusing gloves when not necessary, sanitizing gloves instead of hands	Only use gloves when indicated and dispose immediately after	Gloves can be a major source of transmission of microorganisms when used incorrectly. ABHRs are not compatible with gloves, increasing risk of transmission.
Wearing hand jewelry such as rings and bracelets	Avoid wearing jewelry	Jewelry can harbour microorganisms that are difficult to remove
Wearing artificial nails or chipped nail polish	Do not wear artificial nails, nail polish must be intact and nails must not extend beyond fingertips	Long nails, artificial nails, and chipped nail polish can harbour microorganisms that are difficult to remove

Section 3

This section will discuss the 4 moments of hand hygiene.

3.1 – The 4 moments of Hand Hygiene: Rationale and Examples

The 4 moments are a practical approach to identifying and teaching the essential moments for when hand hygiene should be performed to limit/stop the spread of microorganisms and their associated diseases within healthcare facilities.

- **Moment 1** – Before contact with a resident or their environment
  - Rationale – Limits spread of microorganisms to resident and their environment.
  - Examples - Before performing assessments, aiding with basic care such as toileting and ambulation, bringing in food, reorganizing patient belongings.
- **Moment 2** – Before clean or aseptic procedure
  - Rationale – Prevents microorganisms from entering the resident's body, especially sterile areas. This prevents other serious conditions such as infection and sepsis.
  - Examples - Before applying eye drops, administering injections, gaining vascular access, wound care, catheterization, tracheostomy care.
- **Moment 3** – After exposure or risk of exposure to body fluids
  - Rationale – Protects the healthcare provider from microorganisms that may be in the patient's body fluids, such as viruses in the blood.
  - Examples – After drawing/manipulating any fluid sample, wound care, accessing drains, cleaning up bodily waste, disposing of contaminated products (e.g. bandages, incontinence pads, IVs), cleaning of contaminated/visibly soiled areas.
- **Moment 4** – After contact with a patient/resident or their environment
  - Rationale – Protects the healthcare provider from any microorganisms acquired during care, and prevents their spread.
  - Examples – After touching the resident and/or their environment, when leaving the resident's room

Section 4

This section will provide an overview of and instructions regarding hand hygiene audits

4.1 - Hand Hygiene Audits: Rationale

Auditing hand hygiene by healthcare providers provides a benchmark for improvement of overall hand hygiene compliance with the facility. Public display of hand hygiene compliance rates can serve as a motivator to healthcare providers to either improve their adherence or to continue performing satisfactory rates of hand hygiene.

The results of these observational audits will help identify the most appropriate interventions with regard to hand hygiene education, training and promotion. In hospitals, an increase of hand hygiene compliance of 20% yields up to a 40% reduction rate in the occurrence of hospital-acquired infections. Therefore, it is important to record the results and share them with front-line healthcare providers, management, and healthcare boards.

4.2 Hand Hygiene Auditing Method

Hand hygiene auditing uses direct observation from trained hand hygiene auditors to record the 4 moments. It is important for the auditor to conduct observations openly, but they must keep the identity of all healthcare providers confidential – there are no names attached to the observations, only the role of the healthcare provider is recorded (i.e. physician, nurse, student, physiotherapist, volunteer, etc.). All healthcare providers working with the resident or on the resident's floor may be observed, however the observer only records what they see. Each observation is approximately 20 minutes.

These observations are recorded into a validated tool, from which a compliance rate can be calculated. In a long-term care facility, observations will mainly focus on the first and fourth moments of hand hygiene, as these are the most common and easiest to observe. Families, visitors, and privately hired caregivers are not to be observed during auditing sessions.

4.3 - Hand Hygiene Audit Tool

The following is a sample tool which may be used for recording observations. Successful moments are generally marked with a checkmark while unsuccessful moments are marked with an X.

		Moment 1				Moment 2				Moment 3				Moment 4			
Date	**Unit**	RN/RPN	Dr	PCA	Other	RN/RPN	Dr	PCA	Other	RN/RPN	Dr	PCA	Other	RN/RPN	Dr	PCA	Other

4.4 - Combined Moments

Moments recorded can be combined and considered as one moment. For example, if a healthcare provider performs hand hygiene after leaving one resident's room and walks directly into another resident's room without performing hand hygiene, but also without touching anything beforehand, the auditor would only mark down a successful "moment 4", skipping "moment 1". Combined moments must show no evidence of acquisition of microorganisms between them.

4.5 - Calculating Hand Hygiene Compliance Rate

Hand hygiene compliance rates are calculated by dividing the number of successful hand hygiene moments by the overall amount of successful and unsuccessful moments. Below is the written calculation:

Number of Compliant Observations x 100 = Compliance rate %

Total Number of Observations (Compliant + Non-compliant)

For example:

10 compliant observations x 100 = 62.5% Compliance rate

16 total observations

4.6 - Feedback of Calculated Hand Hygiene Compliance

Data obtained from Hand Hygiene compliance rates should be reported back to the staff, the unit, and any relevant healthcare boards. This allows for immediate action from the healthcare staff regarding their hand hygiene practices, but also opens up the opportunity to discuss any issues in infrastructure which are detrimental to hand hygiene compliance, such as limited ABHR dispensers around the floor, or lack of sinks strategically placed in easy to access areas after resident care.

4.7 - Overall Facility Hand Hygiene Compliance

The results of hand hygiene compliance rates should be recorded into an Excel spreadsheet which is updated after each observation session. This will allow the facility to note trends, whether increasing or decreasing, over the course of weeks, months, and years.

The information gathered should be acted upon accordingly; should numbers be decreasing or not be as high as anticipated, inquiry should be made into the drifts from practice, possible reasons, and related interventions to mitigate this. Below is a template to use for recording compliance rates into a spreadsheet. This is example has compliance rates calculated by moments, by category of staff, and by unit.

Compliance by moment		
Moment	**Compliant**	**Not compliant**
1	83.33%	16.67%
2	16.67%	83.33%
Grand Total	**100.00%**	**100.00%**
Compliance by category of staff	**RN**	
Moment	**Compliant**	**Not compliant**
1	5	1
2	1	5
Grand Total	**6**	**6**
Compliance by unit	**Floor 1**	
Moment	**Compliant**	**Not compliant**
1	5	1
2	1	5
Grand Total	**6**	**6**

References

Alberta Health Services Infection Prevention & Control Hand Hygiene Program. How to Conduct Hand Hygiene Reviews. Alberta Health Services. 2021. Retrieved from https://www.albertahealthservices.ca/assets/info/hp/hh/if-hp-hh-guide-to-conduct-hh-reviews.pdf

Infection Practice and Control Canada. Information about Hand Hygiene. Infection Practice and Control Canada. 2022. Retrieved from https://ipac-canada.org/hand-hygiene

National Health Service. Hand Hygiene Information. Hull University Teaching Hospital NHS Trust. 2022. Retrieved October 27th 2022 from https://www.hey.nhs.uk/patient-leaflet/hand-hygiene-information/

Public Health Ontario. Just Clean Your Hands – Long-term Care. Ontario Agency for Health Protection and Promotion. 2022. Retrieved 23rd September 2022 from https://www.publichealthontario.ca/en/health-topics/infection-prevention-control/hand-hygiene/jcyh-ltch