

# Clinical Service

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ICU 1

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## IAD Prevention with CDA bundle

### BACKGROUND:



#### Incontinence Associated Dermatitis (IAD)

IAD is a form of irritant dermatitis that develops from chronic exposure to urine or liquid stool. Once IAD occurs, there is a high risk for Pressure injury (PI) development and has also been found to increase as the severity score for IAD increases. Structured skin care regimens that incorporate gentle cleansing and skin protectant have been shown to reduce the incidence of IAD and the incidence of PI in hospitalized patients with incontinence. If there is inappropriate skin care, there may be more complications, such as pressure ulcer that resulting in pain and discomfort, increasing length of stay, high medical cost and mortality. Most patients in ICU-1 are elderly patients with gastrointestinal problems. For instance gastrointestinal bleeding which laxatives are required before any procedures are performed, severe diarrhea and patients with hepatic encephalopathy which laxative is required to secrete ammonia. Causing patient's skin to develop IAD more than other groups of patients. Improper cleansing, also increases the cause of IAD incidence rate. In year 2013 IAD incidence rate was found to be 12.93 /1000 Pt day which is quite high. Furthermore, the IAD incidence rate became one of Bumrungrad International's quality indicator. Therefore, the ICU-1 team decided to develop this as their project innovation.



### MEASUREMENT:



Objective to reduce the incident of IAD by studying the problems and review relevant research literatures which came up with this "easy-to-practice" tool called "CDA bundle"

#### C = Clean

- Rinse water to remove contaminants
- Use pH balance liquid cleanser
- Avoid soap bars and scrubbing

#### D = Dry

- Pat skin dry
- Dap the intergluteal cleft area with tissue paper twice or more till dry

#### A = Apply barrier film

- Spray barrier film over exposure area
- Expose the intergluteal cleft area for at least 10 sec. or until barrier film dries completely (count 1-10)

#### Cleanse

- Rinse water to remove soil.
- pH balance skin cleanser
- Avoid soap and scrubbing.

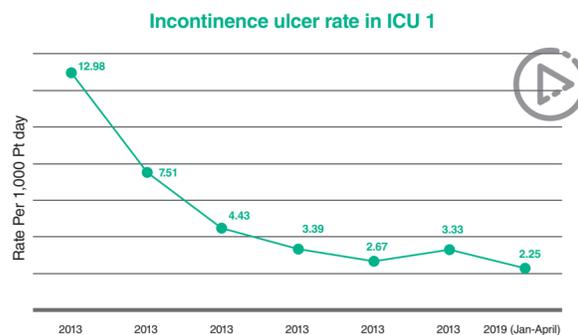
#### Dry

- Pat skin dry
- Keep paper in skin fold while new pad changing then remove.

#### Apply barrier film

- Spray barrier film over exposure area
- Hold skin fold until film dry completely (count 1-10)

Every employee is trained on how to use this tool and it is started in the care of patients as well. Patient's skin is initially evaluated prior to admission. If IAD is discovered after admission, this is considered the incident of the department. An incident report is written, CNC team and the physician are reported for consideration of treatment plan. Data is analyzed to delineate the cause of each case. This is co-joined between ICU department and CNC wound care team.



### ACTIVITY:

When a high IAD incidence rate was detected, incident is reported to the team. The team brainstormed ideas and develop a Community of Practice (COP); wound care team coordinates with their CNC and doctors to review literatures and find the suitable product solution. The conclusion was to change soap bars to neutral pH balance liquid soap. Established "Skin-care-set" for prevention and treatment. A cleansing process for all employees was developed. After following up the operation results, it was found that the incidence rate is still high. Therefore, random reviewing of nursing behavior regarding the cleansing process showed that 41.18% did not use the cleansing products with pH balance as agreed, 41.18% did not dry their skin properly after washing and 82.35% used the wrong skin barrier film/coating product, the genital groove was not exposed and did not wait for the film/coating solution to dry completely. This results in an inadequate protection of the skin as intended. Therefore, the team has developed a guideline called "CDA bundle" for nursing practice which is easily recognized and easy to perform simultaneously. Comparison of IAD incidence rates before and after using CDA bundle including measuring employees' compliance of the bundle was performed.

### RESULT:

In y2013 before developing the project, IAD incidence rate was 12.98/1000 pt. day. After the project was developed, the incidence rate decreased to 7.51/1000 pt. day in y2014, 4.43/1000 pt. day in y2015, 3.92/1000 pt. day in y2016, 2.67/1000 pt. day in y2017, and

3.33/1000 pt. day in y2018. The severity of the occurrence decreased significantly until no incidence of severe stage IAD is found in patients and no incidence of IAD pressure injury. Comparing IAD patient care costs before and after the project, there was a significant reduction in related expenses to 276,626 Bath/Year.

(Cost of Poor Quality)



### CLOSING ARGUMENT:



Year 2015 - Received the 1st runner up award, Bumrungrad International's Advance Team Level from the annual quality development contest. CDA bundle has then expanded in critical care service and other departments. This has also been developed in to the hospital's Policy Care Bundle. In addition, the work has been disseminated to professional colleagues in many organizations as follows:

- 1) Poster presentations in the 6<sup>th</sup> APETNA Meeting 2015, in Singapore
- 2) Topic: "Sharing experience Pressure Injury Prevention in BI" at Bangkok Phuket Hospital, y2018
- 3) Experience Sharing and Workshop meeting during the "Moving Forward Together, Achieving Patient Safety Goal: Patient Care Process (Pressure Injury)"
- 4) Experience Sharing meeting on Pressure Injury Prevention during the visit of "Outside Hospitals"

This year we were also honored to share our experience during the High Performance of Organization (HPO) Thailand.