State of Kuwait

Ministry of Health

Infection Control Directorate

Title: Policy for prevention and control of Meticillin-Resistant ***Staphylococcus aureus*** (MRSA) in Health Care Facilities

Title: Policy for prevention and control of Meticillin Resistant *Staphylococcus aureus* (MRSA) in health care facilities	***Policy Code:*** *P-IC-002*
Policy owner: *Infection Control Directorate*	***Effective Date:****2011* ***Updated:*** *November 2019*
Section Location: *governmental and private health-care settings*	***Approved Date:*** ***November*** *2019*
Applies to: *All health-care workers in Patient care areas*	***Revised Date:*** *November 2022*
Approved by: *Dr. Ahmad Almotawa*	

Purpose:

- To ensure patients who are identified as MRSA colonized/infected are managed safely and effectively.
- To protect patients and health-care workers (HCWs) from colonization or infection with MRSA

Policy statement:

This policy describes the precautions that should be followed to prevent transmission of MRSA. It also includes the management of infected\colonized MRSA patients and staff as both colonized and infected persons must be viewed as potential sources of infection.

Definition: -

Carrier of MRSA - A person who harbors MRSA with no overt expression of clinical disease, who is a potential source of infection. Recognized carrier sites for MRSA include nose, throat, and skin sites such as perineum, groin, and axillae.

Infection with MRSA -The entry and multiplication of MRSA in the tissues of the host where tissue damage can occur

MRSA Contact - A patient who has been residing in the same area as an MRSA positive patient for 24 hours or longer.

Colonization - The presence of microorganisms at a body site without evidence of tissue damage. Colonization may be a precursor to infection. The transient carriage may occur on the unwashed hands of a health care provider which becomes a potential method of transmission for the organisms.

Decolonization - The treatment regimen used to eliminate MRSA carriage or colonization using antimicrobial soap, topical and/or systemic antibiotics

Equipment

Skin decolonizing agent, e.g. 4% chlorhexidine, Povidone-iodine 7.5% or 2% triclosan or octenisan

Nasal decolonizing products e.g. mupirocin 2%, octenisan nasal gel

Procedure: -

I.MRSA Screening

1. **Patients to be screened:**
    - previously infected or colonized with MRSA
    - frequent re-admissions to a health-care facility or direct inter-hospital transfer
    - recent inpatients at hospitals known to have a high prevalence of MRSA
    - residents of residential care facilities known to have a high prevalence of MRSA
    - patients who are regular attendees, e.g. patients having chemotherapy and hemodialysis patients

- patients admitted to high- risk units as ICU, NICU, burns, transplantation, cardiothoracic, trauma, vascular surgery, renal.
- contacts of MRSA case in high-risk areas or in situations of a high prevalence of MRSA
- MRSA outbreak.

- N.B. The decision about whether to perform routine admission screening should be made clear by the infection control team in consultation with the senior clinical staff of the units and should be agreed with hospital management

2. Screening sites:

- Nose (one swab to be used for both anterior nares),
- Groin or perineum.
- All broken or abnormal skin, pressure sores, ulcers, surgical wounds, cuts/abrasions, exfoliative skin, e.g. eczema, psoriasis, or dermatitis,
- Umbilicus in neonates,
- Intravenous cannula sites,
- Urinary catheter exit site if producing exudates,
- Catheter specimen of urine (CSU) if catheterized,
- Sputum if productive cough present.

II. Management of MRSA Infected or Colonized Patients

The infection control department should be notified for any MRSA infected colonized case. Patients identified with MRSA infection or colonization should be managed as follows:

1. **Patient Isolation (contact precautions in addition to standard precautions**)

a. Patient Placement

- Ideally, place the patient in a single bedroom.
- Consider cohorting in a designated cubicle for clustering of MRSA cases with clinical handwashing facilities.

- The MRSA colonized/infected person should never be placed with a person at high risk for infection (i.e., patients with tracheostomy, gastrostomy, central line, urinary catheter, open wound or immunocompromised).
- Dedicated nursing assignments and consider nurses cohorting for MRSA cases
- The door of the isolation room should always be kept closed.
- Place a contact isolation sign on the door of the isolation room.
- Use an isolation cart for extra supplies (keep outside the room).
- Discharge the patient as soon as his medical condition allows.

b. Hand hygiene:

Strict follow of hand hygiene protocol with adherence to the 5 moments for hand hygiene

c. Personal Protective Equipment (PPE):

Gowns:

- Disposable gowns should be worn with all patient care activities.
- This also applies to visitors who assist with the patient's bodily care.
- Visitors who only have social contact with the patient do not need to wear PPE but need to perform hand hygiene before leaving the room.
- Remove the gown before leaving the patient's room and ensure that clothing does not contact potentially contaminated environmental surfaces.

Gloves

- Gloves should be worn with all patient care activities. Perform hand hygiene before wearing gloves.
- Change gloves if moving from contaminated body site to another.
- Remove gloves before leaving the patient's room then do hand hygiene.
- Ensure that hands do not touch potentially contaminated environmental surfaces.
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Masks:

- Masks are necessary during procedures that may generate aerosols.

d. Instruments and equipment

- Single-use instruments or equipment preferred to be used and discarded as clinical waste after use inside the room.
- Use dedicated non-critical items such as stethoscopes and pressure cuffs with each patient.
- Reusable equipment should be avoidable if possible. If used, disinfect according to manufacturer's instructions or hospital disinfection policy.

e. Clinical Waste:

- Use yellow waste bags for all waste bins in the isolation room and red waste bags for the toilet waste bins.
- Dedicate puncture-proof sharps disposal boxes (yellow box) inside the isolation room.

f. Linen and laundry:

- All linens, including bedding and adjacent curtains from patient infected\colonized with MRSA, should be considered contaminated and should be sent to the laundry department bagged in a heat resistant water-soluble bag.
- A dedicated laundry hamper should be provided in the isolation room.

g. Visitors

- Nurse/doctor should explain to the patient and/or their relatives about MRSA
- Normal visiting is encouraged; there is no risk to people in good health.
- All visitors should do hand hygiene before and after visiting time.
- Visitors need to wear PPE when delivering direct patient care (e.g. washing, bed making, changing the position of the patient).

- Visitors should be advised not to visit other patients, wards, and department

2. Management of MRSA Infection

- Antibiotic therapy for MRSA infection should be in line with the antibiotic guidelines that are implemented in every hospital.
- Patients with MRSA infection may require a course of antibiotics along with a decolonization regimen.
- Discuss with the Microbiologist if antibiotic treatment is required.
- Infected wounds with MRSA should be covered at all times.
- Use of an appropriate dressing with antimicrobial activity may be considered, consult the Microbiologist.
- In case of the presence of dressing around the device, make sure that the used antimicrobial is compatible with the device material.
- Infected IV insertion sites**,** remove the line and re-site if access is still required
- Mupirocin topical ointment 2% should not be used in the following:

  - ✓ Treatment of clinically infected wounds.
  - ✓ Around central venous catheter sites, Hickman lines, PEG sites or other plastic devices due to polyethylene glycol base of the cream.

3. MRSA Decolonization

All patients found to be colonized with MRSA will be considered for topical decolonization to eradicate MRSA and reduce the subsequent risk of infection.

a. Nasal decolonization

This should be achieved by applying one of the following to the inner surface of each nostril (anterior nares):

1. mupirocin 2% in a paraffin base three times a day for five days (maximum two courses)

- Two days after completing the second course of Mupirocin a further 3 x MRSA screens should be taken at 48-72 hours intervals.
- If any of these screens are positive skin decolonization should be continued, but no further Mupirocin should be given.

Or

2. Octenisan nasal gel twice a day for five days (one course only)

Nasal decolonization should be used with skin decolonization.
- Two days after completing the course of decolonization regimen, three MRSA screens should be taken at 48-72 hours interval.
- If all 3 screens are negative, infection control precautions for MRSA should be discontinued.
- If the result of any of the 3 MRSA screens is positive, a second 5 days course of nasal Mupirocin can be used, and skin decolonization should be prescribed.
- If a patient has a nasal invasive device such as a nasal cannula or nasogastric tube then treatment with a nasal ointment may be withheld or delayed until the device is removed.

b. **Skin decolonization**

- Skin decolonization using 4% chlorhexidine body-wash/shampoo is used in eradicating or suppressing skin colonization for short times, particularly pre-operatively.
- Povidone-iodine 7.5% or 2% triclosan or Octenisan can be used as alternatives according to local availability.
- Patients should bath daily for five days with 4% chlorhexidine or alternatives and hair wash twice on days two and five.
- The skin should be moistened, and the antiseptic detergent should be applied thoroughly to the entire area before rinsing.
- Particular attention should be paid to known carriage sites such as the axilla, groin and perineal area, leaving the preparation in contact with the skin for 3 minutes.
- The antiseptic should also be used for all other washing procedures and for bed bathing.

- After satisfactory completion of each bath and hair wash, clean clothing, bedding, and towels should be provided.
- Two days after stopping skin decolonization, three MRSA screens should be taken at 48-72 hours intervals.
- It should be continued until the patient has three negative MRSA screens. If not, skin decolonization should be continued during the hospital stay.
- For patients with eczema, dermatitis or other skin conditions, consult a dermatologist for a suitable eradication protocol.
-Careful consideration should be given in neonates regarding the appropriate use of agents used for decolonization. This should be discussed with the infection control team and pediatrician/ neonatologist. Octenisan is an approved liquid disinfectant used as a total body wash for neonate or patient with allergy.

c. Wound decolonization

- Mupirocin ointment should only be used on wounds/ulcers in very specific circumstances too small wounds less than 5cm x 5cms and only under the direction of the Consultant Microbiologist to avoid its nephrotoxicity when absorbed through large areas of raw tissue
- Antibiotic creams should not be used for colonized wounds due to resistance.

4. Discontinuation of Contact Isolation (Clearance)

- Two days after completing the course of decolonization regimen and\or antibiotic treatment, perform follow up screening of all sites which were previously positive in colonized\infected patients 3 times 48-72 hours apart.
- The patient should not receive (anti-MRSA) antibiotic therapy at any time during the screening process.
- Sampling should be continued until three sets of negative swabs are obtained to consider the patient as MRSA free.
- If the patient is still positive, may be considered as a chronic carrier.

5. Patient Transfer:

- All units should have procedures in place and adequate facilities for containment of MRSA; Refusal to accept patient transfer is not justifiable based on the risk posed to other patients by an individual's carriage of or infection with MRSA.
- The movement of patients with MRSA should be kept to a minimum to reduce the risk of cross-infection
- Before and during patient transfer (within or between health-care facilities) apply the following:

1) Notification of:
   - ✓ Receiving destination (a department within the same hospital or another hospital) about the patient's MRSA status in advance of the transfer (e.g. documentation on the request form).
   - ✓ The Ambulance Service of the MRSA status of the patient at the time of arranging transport. (If the patient will be transferred to another hospital).
2) In ambulance transportation:
   - ✓ Colonized/infected patients without skin shedding may be transported with others with strict application of the necessary infection control precautions.
   - ✓ Patients who are heavily colonized by MRSA and are considered to be heavy skin shedders e.g. have severe psoriasis or eczema.
   - ✓ Patients with discharging lesions that cannot be covered with an impermeable dressing should be transported alone.
3) Proper arrangement to ensure that the patients are not held in a communal waiting area while in contact with the other patients.
4) Lesions should be occluded whenever possible with an impermeable dressing.
5) HCW's who may be in contact with the patient (during patient movement and transportation)should apply contact isolation precautions (Hand hygiene, disposable PPE as gloves, gowns)

6) The trolley or chair should be decontaminated with a general-purpose detergent and hot water followed by an approved disinfectant and dried thoroughly.
7) Equipment and linen that has been in contact with patients should be dealt with as infected, in accordance with local policy.
8) Proper environmental cleaning and disinfection (receiving department/ ambulance) in accordance with the local policy.
9) In the radiology department consider the following in addition:
    - Patients should be examined last on the list to enable efficient cleaning of the room.
    - Those with eczema or dermatitis should be discouraged from dealing with known infected patients.
    - Staff should cover any cuts and grazes.
    - After the procedure, the patient should be returned to the ward as soon as possible.

6. Surgical/Invasive Procedures

1) Before any planned invasive procedure, decolonization and prophylactic antimicrobial therapy, as appropriate, should be undertaken to minimize the risk of infection.
2) If it is impossible to clear a patient of MRSA prior to the admission for surgery: the following should be commenced 48 hours pre-operatively to reduce the level of MRSA at the time of the procedure:
    - bath/shower the patient with an antiseptic detergent, applied directly to the skin as a wash, and rinsed off; this should be continued till the patient is discharged;
    - cover affected lesions with an impermeable dressing;
    - clean the area adjacent to the lesion with 4% chlorhexidine;
    - apply mupirocin or octinesan to the nose before the operation if the patient is a nasal carrier;
    - give prophylactic antibiotic cover for surgical procedures in colonized or infected patients, following discussion with a medical Microbiologist according to hospital policy.

3) Before any surgery, the theatre should be informed of any MRSA case.
4) MRSA patients should be placed at the end of a procedure list. Emergency cases are exempted.
5) Staff and stock equipment within the operating theatre should be kept to a minimum
6) The theatre environment should be thoroughly decontaminated with a detergent solution followed by disinfection before being used for the next patient.
7) MRSA positive patients may be recovered in recovery units, provided that patients segregated as far as possible within the recovery area, nursed by staff dedicated to their care, employing contact precautions, and equipment in contact with the patient is disinfected after use.

7. Discharged Patients.

- Colonization or infection with MRSA is not a contra-indication to the transfer of a patient to a rehabilitation or convalescent home.
- MRSA patients should be discharged from the hospital when their clinical condition allows (according to the opinion of treating clinician)
- There is no indication for routine discharge screening.
- Education of patient and patient carers about MRSA using Information sheet for MRSA infected patients on discharge (information sheet-appendix 2A&B)
- Decolonization treatment:
    - ✓ MRSA carriers will not normally require decolonization following discharge from an acute hospital to a non-acute health-care setting, the community or home.
    - ✓ If decolonization treatment has been commenced before discharge, it should be completed.
    - ✓ The need for decolonization after discharge should be decided by the patients' consultant in conjunction with the hospital infection prevention and control team
    - ✓ Decolonization may be required, e.g. pre-operatively on the advice of the admitting physician/surgeon where a patient is to be readmitted for further treatment.

- ✓ Information on decolonization protocol to be followed at home (in needed) should be addressed using an Information sheet for MRSA infected patients on discharge.

- Patients should be advised that if they are hospitalized or require community-based health services in the future, they should inform the staff that they have been identified as carriers of MRSA in the past to ensure that they are managed appropriately.

III. Management of MRSA Infected or Colonized Staff

- Do not screen HCWs because it is not routinely indicated.
- Infection control physicians may initiate such measures when indicated (if HCWs are epidemiologically linked to unexplained transmission of MRSA or there is an increase in MRSA rate).
- For MRSA contacts staff, send nose and areas of non-intact skin as screening sites.
- Follow the same patient decolonization protocol.
- MRSA infected or colonized staff should be off work (according to local regulations) or re-allocated to low-risk tasks or units until decolonization is completed.

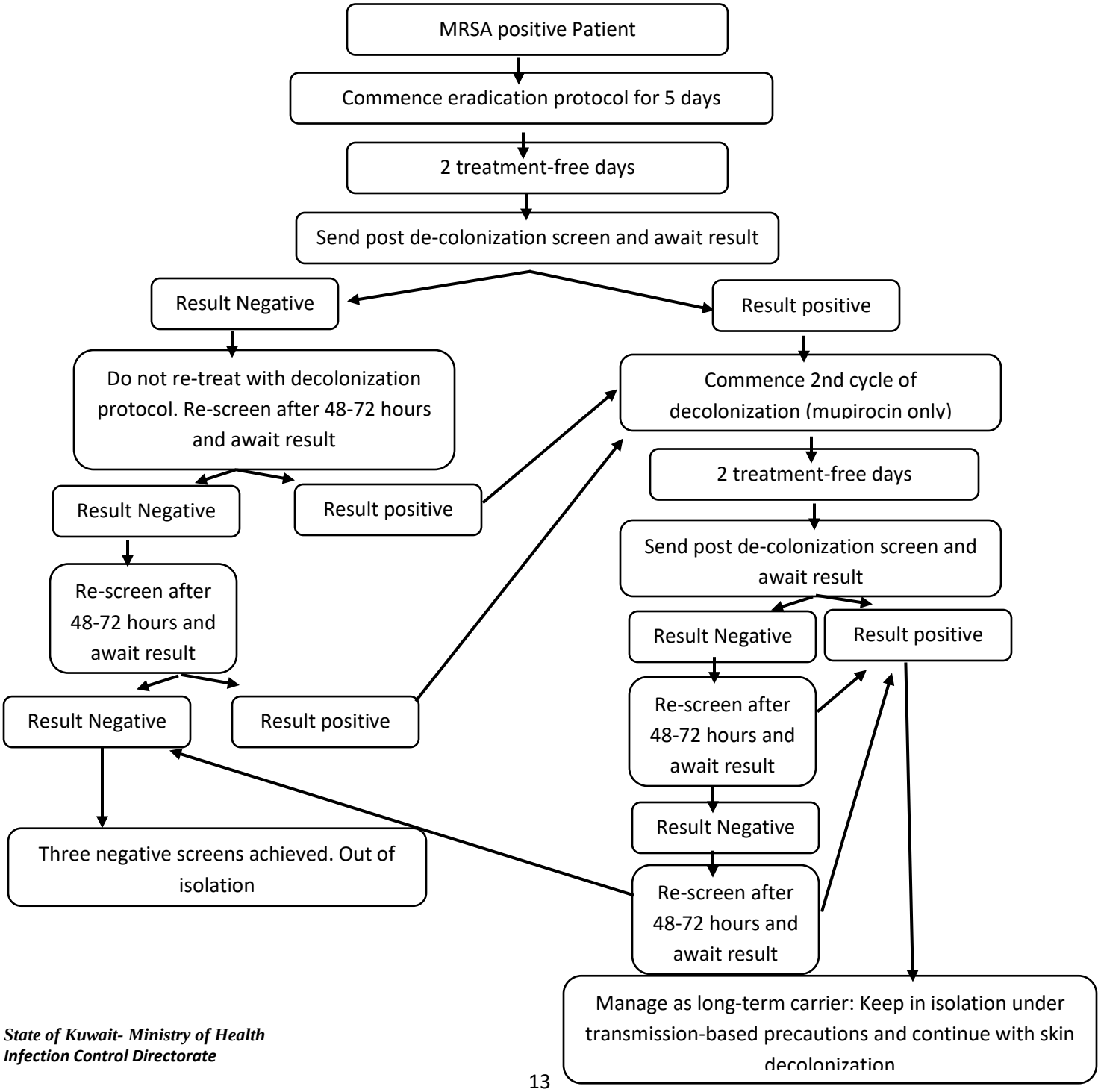
References:

- Guidelines of prevention and control of Meticillin-Resistant *Staphylococcus aureus* (MRSA) in health care facilities. Infection Control Directorate, Ministry of Health, State of Kuwait.
- Prevention and Control of Meticillin-Resistant *Staphylococcus aureus* (MRSA). National Clinical Guideline No.2. 2013
- MRSA decolonization therapy. NHS foundation TRUST 2019

Appendix 1: MRSA Decolonization and Re-screening Protocol Algorithm

Routine screening sites: • Anterior nares (nose) • Perineum (or groin) • Chronic skin lesions (e.g. ulcers, pressure sores) • other skin breaks, e.g. surgical wound, IV-line site, tracheostomy site• CSU if catheterized • Respiratory secretions if ventilated

De-colonization protocol: daily for 5 days • Bactroban nasal (2%mupirocin in paraffin base) to both nostrils 3 times/day (**two courses**) or octenisan nasal gel twice a day for five days **(one course only)** • Skin decolonization using 4% chlorhexidine body-wash/shampoo, 7.5% povidone-iodine or 2% triclosan or octenisan can be used as alternatives according to local availability.



Appendix 2-A INFORMATION SHEET FOR MRSA PATIENTS ON DISCHARGE

Patient's name: ..... Date.....

Background: A bug called MRSA (Meticillin Resistant Staphylococcus Aureus) has been found on your ---------- If it stays in those places it will cause no harm but if it spreads to a wound or into your body, it may cause an infection. Likewise, if it spreads to another hospital patient it may cause an infection. So, we would like you to follow these instructions in order to try to reduce this happening. If a Doctor/Nurse at other health care facilities or at home is treating, you please show her these instructions.

Family, friends, and relatives: The bug for which these procedures are being undertaken poses no risk to normal healthy people. Normal social contact with family, relatives, and friends is of no risk and should be encouraged. No special precautions will need to be taken. If one of the people living in the same house as you are sick or is a hospital worker please tell the Nurse before you go home. He/ she will discuss this with the Infection Control Doctor to see if any special precautions need to be taken .

Pregnant or a nursing mother: If you are pregnant and fit and healthy, there are no additional risks from MRSA. Breastfeeding is safe for you and your baby. However, in common with the usual advice given to breastfeeding mothers, if you notice certain symptoms, you should contact your doctor for advice. These include: painful breasts, red patches or a sense of 'lumpiness' around the breasts or flu-like symptoms, including a temperature

Treatment to continue when you go home, this may include Ointment\gel for your nostrils: Your nurse or doctor will tell you how and when to use this. It is usually easiest to use a cotton bud to put a small amount of the ointment\gel into each nostril three\two (according to product used) times a day for five days and then pinch the nostrils together to spread the ointment. Your doctor or nurse will write down below where and how you should apply this ointment\gel .....

− A special antiseptic soap to use when you have a bath or a shower: A bath or shower should be taken every day, and your hair should be washed twice within the five days using the antiseptic foam/soap, which you are given. A clean towel should be used after each bath and shampoo and this should be kept for your use only. Put on clean clothes and change your pajamas, bedsheets and pillowcases, if possible. All the used clothes and bed linen can be safely hand or machine-washed using a normal washing program, suitable for the fabric.

If any of the above treatments cause you skin irritation, please stop using them immediately and inform your Doctor

Treating physician----------

Appendix 2-B (Arabic)

إرشادات للمرضى المصابين بعدوى جرثومة المكورات الذهبية العنقودية المقاومة للميتيسللين عند الخروج من المستشفى

اسم المريض ..... التاريخ ..... :

نبذه عن المرض: لقد تم اكتشاف وجود المكورات العنقودية الذهبية المقاومة للميتيسللين على ---------- وفي حال بقائها في هذه المناطق فإنها لن تتسبب بأي ضرر ولكن في حال انتقالها إلى أي جرح لديك أو إلى داخل جسدك فإنها قد تتسبب بحدوث التهاب لذلك نرجو منك أتباع هذه التعليمات من اجل تقليل من نسبة حدوث هذه العدوى كما نود منك أن تقدم هذه التعليمات إلى طبيبك المعالج أو الممرضة المسئولة عن تقديم الرعاية الصحية المنزلية لك

الأسرة والأصدقاء والأقارب

إذا كنت مصابا بجرثومةMRSA فلن تمثل في العادة خطر لعامة الناس الأصحاء في المجتمع من ضمنهم كبار السن و النساء الحوامل و الأطفال و الرضع.الأقارب لا تشكل هذه الجرثومة خطرا على الأصحاء من أفراد الأسرة أو الأصدقاء أو الأقارب ، ولا يمنع وجودها التواصل الاجتماعي ، حيث أنها لا تشكل أي خطر ولا تتطلب أية إجراءات احترازية.ولكن في حال وجود شخص مريض يعيش معك في نفس المنزل فيرجى إبلاغ الممرضة المسئولة قبل القيام بإجراءات الخروج من المستشفى .

ما هي الاحتياطات الخاصة بالتنظيف؟

بالرغم من عدم الحاجة لتطبيق معايير خاصة بالتنظيف ، فان النظافة الجيدة في منزلك ستقلل احتمالية انتشارالجرثومة.

– حافظ على الأسطح خالية من الغبار
– قم بتنظيف السجاد و حمام الاستحمام و الدش و المغاسل و المراحيض بشكل دوري باستعمال منتجات التنظيف العادية.
– يجب غسل ملابسك و أغطية الأسرة و الشراشف كالمعتاد مستخدما مساحيق الغسيل العادية على اعلي درجات الحرارة.
– يمكنك وضع ملابسك مع غسيل بقية أفراد الأسرة كالمعتاد يمكنك تنشيف و تجفيف و كوى الملابس كالمعتاد.

ماذا لو أنت حاملا أو أما مرضعة ؟

– أن كنت حامل وبصحة جيدة فليست هناك أية أخطار إضافية من جرثومة MRSA و رضاعة الثدي أمنة لكي و لطفلك .
– إذا لاحظت اى من العوارض التالية يجب الاتصال بالطبيب : ألام في الثديين - علامات حمراء أو الإحساس بورم حول الثديين - عوارض تشبهه الزكام من ضمنها ارتفاع درجة الحرارة.

يحتاج المريض مواصلة العلاج عند العودة إلىالمنزل اجراءات إزالة الاستيطان - الرجاء و ضع علامة(□) :

مرهم : موضعي يستخدم داخل فتحتي الانف ،وسو ف يقوم الطبيب المعالج او الممرضة بارشادك عن كيفية استخدامه حيث انه من الافضل استخدام عود القطن لوضع كمية قليلة في كل من فتحتي الانف مرتين\ثلاث مرات يوميا (وفقا لنوع المرهم المستخدم) ثم اضغط على فتحتي الانف من الخارج لنشر المرهم داخل الانف

الصابون الطبي المطهر المستخدم في الاستحمام : حيث يجب غسل الجسم يوميا كما يجب غسل الشعر مرتين اسبوعيا بهذا الصابون، ويجب استخدام فوطة نظيفة تخصص لك انت فقط بعد كل حمام ، ويجب استخدام ملابس نظيفه بعد كل حمام، كما يجب تغيير شراشف السرير واكياس المخدات ايضا، ويمكن غسل جميع الملابس والبياضات المستخدمة قبل الاستحمام يدويا او بواسطة الغسالة بالطريقة المعتادة المناسبة .

ملاحظة في حال تسببت لك أي من العلاجات السابقة بتحسس جلدي فيجب ايقافها فورا ومراجعة طبيبك المعالج.

ما هى الاحتياطات الإضافية للأشخاص الخاضعين لإجراءات إزالة الاستيطان؟

– يجب عليك أن لا تشارك الآخرين مناشفك الشخصية و يجب أن تغيرها يوميا خلال فترة علاجك
– تغيير ملابس النوم كل يوم ولبس ملابس نظيفة مغسولة خلال فترة علاجك
– تغيير شراشف الأسرة يوميا خلال فترة علاجك
– عدم استخدام شفرات أو أية أدوات حلاقة مشتركة مثل الفرشاة و الصابون مع اى شخص أخر لان هناك إمكانية جرح الجلد مما يسمح للجراثيم بالدخول إلى جسدك

الطبيب المعالج.....