MULTI DRUG RESISTANT ORGANISM COLONISATION (MRSA, ESBL etc.) ● 1/2

Use this guideline in conjunction with your local Trust policy

This guideline describes the screening and follow-up action for the following organisms:

- Methicillin-resistant *Staphylococcus aureus* (MRSA)
- Multi-resistant Gram-negative bacilli (MGNB) including:
- extended spectrum beta lactamase (ESBL)
- carbapenemase-producing Enterobacteriaceae (CPE)
- other carbapenemase producing GNB

SCREENING

Babies transferred from other hospitals

- Screen on arrival. Include babies who attend other hospitals for invasive day case procedures (e.g. PDA ligation)
- MRSA:
- swab nose and perineum plus umbilicus if still moist, and any skin lesion (e.g. indwelling vascular line)
- urine if long-term urinary catheter present
- MGNB:
- rectal swab
- if unable to obtain rectal swab send stool sample instead with reason stated
- Barrier nurse until swabs confirmed negative at 48 hr

Routine screening on unit

- MGNB: weekly
- MRSA: ≥monthly

MANAGEMENT OF INCIDENTAL FINDINGS

MRSA

Mother

- Screen mother with nasal, perineal, wound and skin lesion swabs, if:
- delivery by caesarean section
- mother had recent admission to hospital before delivery
- mother has chronic health problem (e.g. diabetes mellitus, asthma)
- mother has other risk factor, high BMI or is a healthcare worker with patient contact
- mother or household member has a history of skin/soft tissue infection abscess or recurrent skin infections in the last 12 months
- If none of these risk factors present, screening contacts is not necessary unless advised by consultant microbiologist

Contacts on NICU

- Those who have been in close proximity of the index case (i.e. in the same room)
- Potentially all babies following a risk assessment and discussion with consultant of the week, co-ordinator and consultant microbiologist
- Healthy babies about to be discharged home do not require screening unless advised by consultant microbiologist

Decolonisation of carriers

- Discharge term healthy babies without treatment
- Smaller babies with indwelling lines or CPAP probes are more at risk and should be treated
- mupirocin (Bactroban Nasal®) ointment applied to inner surface of each nostril 3 times daily for 5 days; if MRSA reported as high level resistant to mupirocin, then discuss with consultant microbiologist
- wash daily with antimicrobial wash, e.g. chlorhexidine or octenidine, for 5 days
- Repeat screening swabs 48 hr after all antibiotic treatment has finished and if baby not about to be discharged
- Successful eradication can be assumed if 3 consecutive swabs taken at 3–7 day intervals are negative. Do not attempt to decolonise more than twice during any 1 admission

MGNB

- Do not attempt decolonisation. Colonisation is in the gut. Drugs are ineffective, may severely damage gut flora and encourage development of resistant organisms

MULTI DRUG RESISTANT ORGANISM COLONISATION (MRSA, ESBL etc.) ● 2/2

- Some babies may naturally eradicate the colonisation over several months or years
- Babies colonised with CPE and other carbapenemase-producing GNB should be deemed colonised for ≥5 yr after last positive swab, irrespective of screening results
- barrier nurse until discharge

MANAGEMENT OF OUTBREAK

MRSA

- ≥2 babies with same strain of MRSA constitutes an outbreak
- considered 'the same' if they have been sent by microbiology to a reference laboratory for typing and have been reported by reference laboratory as 'indistinguishable'

Action

- Screen all babies in neonatal unit (swabs as above)
- Optimise infection control measures: see **local infection control policy**
- If further cases of the same strain occur:
- arrange incident meeting to discuss further measures, e.g. swabs from all staff on unit
- screening is co-ordinated by infection control team (ICT) in collaboration with occupational health (OH) department at an outbreak meeting
- results are sent to OH and ICT but not to the unit

MGNB

- ≥2 babies with same type of MGNB constitutes an outbreak
- considered 'the same' if sent by microbiology to reference laboratory for typing, and reported as 'indistinguishable'
- For CPE ≥2 babies with the same carbapenemase gene (OXA-48, KPC, VIM, NDM-1 etc.) irrespective of organism if associated in time and space constitutes an outbreak

Action

- Screen all babies in neonatal unit
- Optimise infection control measures: see **local infection control policy**
- If further cases of same strain occur arrange incident meeting to discuss further measures e.g. environmental screening etc.

CPE

- Screen all contacts (alerted on hospital system)
- 3 rectal swabs ≥24 hr apart
- if baby on antibiotics: take ≥1 swab >48 hr after stopping antibiotics
- if all 3 swabs negative: clear of CPE contact status, remove contact alert from system
- if any swab positive, following required:
  - strict isolation
  - long sleeved gowns
  - gloves
  - barrier nursing
  - barrier cleans
- Barrier nurse all colonised babies until discharge
- Ensure strict infection prevention measures in place for all babies identified as CPE contacts/with close contact alert
- if baby discharged whilst being investigated as contact, follow-up rectal swabs in the community are not required
- if re-admitted whilst still having close contact alert commence repeat rectal swab screening
- close contact alert will remain on hospital system for 5 yr