growth) and 0 NICU stethoscopes. 11/12 medical students completed the survey; 1 cleaned the stethoscope often, 8 infrequently and 2 never: surveys were completed by 12/12 physicians; 6 cleaned the stethoscope frequently, 4 often, and 2 infrequently. Self-reported anti-sepsis frequency did not correlate with bacterial growth. NICU bedside stethoscopes were the least contaminated. There were no matching positive blood cultures; in 1 infant CONS was isolated from the stethoscope and from a long-line tip.

Conclusions: Stethoscopes represent potential reservoirs of NIs. Contamination of personal stethoscopes with *S.* species was relatively common; antisepsis should be performed routinely. Individual incubator / cotside stethoscopes were least contaminated and should be used for patients at high risk from NI.

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HOW CLEAN IS CLEAN? EFFECTIVENESS OF DISINFECTION OF THERMOMETERS ON A NEONATAL INTENSIVE CARE UNIT

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Background/aims: Nosocomial infections are responsible for major morbidity in neonates admitted to the Neonatal Intensive Care Unit (NICU). Hygienic measures reduce nosocomal infections. We assessed the effectiveness of the disinfection procedure of the (rectal) thermometer.

Method: This study was performed at the NICU of the University Medical Center Groningen (UMCG) with a capacity of 24 neonates.

Thermometers of admitted neonates were cultured two times. First after the usual disinfection procedure, consisting of disinfecting the thermometer with an (unsterile) gauze with alcohol 70%. Secondly after a novel disinfection procedure, consisting of immersion of thermometers in alcohol 70% for 15 minutes. Thermometers were shaken in brain-heart infusion medium. Inocculated medium was incubated up to 48 hours at 37°C and was subsequently plated out on blood agar and on McConkey plates. Bacterial isolates were indentified based on gross colony morphology, microscopic examination (Gram straining), and biochemical tests.

Results: Initially, 16 of 21 thermometers were contaminated with micro-organisms. In the second phase, 75% of the thermometers where contaminated if the immersion procedure was not performed, compared to 30% after immersion in alcohol 70% ($p < 0.05$).

	Culture negative	Culture positive (number of Gram-negative micro-organisms)	Total number (n)
No alcohol immersion	2	7 (5)	9
Alcohol immersion	7	3 (0)*	10

*[Effectiveness of disinfection of thermometers]*Immersion in alcohol significantly reduced Gram-negative micro-organism (0 vs 56%, immersion vs no immersion,resp.;$p < 0.05$)

Conclusion: Immersion of thermometers for 15 minutes in alcohol 70%, results in a significant reduction of the number of (Gram-negative) micro-organisms on thermometers.

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SERVICE EVALUATION OF SERUM PROCALCITONIN IN MANAGEMENT OF NEONATAL SEPSIS

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Background: Infection is a major concern in neonatal population. After reviewing available literature, procalcitonin was introduced in management of neonatal sepsis with other markers of infection, already in use in our neonatal unit.

Aim: This service evaluation aims to review the role of procalcitonin in early detection of sepsis and compare it with existing tools.

Method: Neonatal sepsis management guideline was reviewed. A new algorithm was introduced. Serum procalcitonin level was checked with regular inflammatory markers in all episodes of suspected sepsis. An enzyme-linked fluorescent assay determined serum procalcitonin level. Cut off value for CRP is 7.5 ml/Land for serum procalcitonin

levels were - 2ng/mL at birth, 15 ng/mL at 24 hours and 2ng/mL from 48 hours onwards.

Result: This evaluation was performed over one month. 29 episodes of suspected sepsis were evaluated. 20 episodes were of early onset and 9 were of late onset. Procalcitonin was raised in all cases of suspected sepsis where there was clinical concern with raised CRP. 3 infants (10%) had raised procalcitonin level at point of suspicion where the CRP levels were normal, 2 were term infants with significant clinical concerns regarding late onset sepsis. One infant had raised CRP levels at birth and 24 hours although the procalcitonin levels were normal.

Conclusion: Procalcitonin was noted to be more sensitive than CRP for early detection of neonatal sepsis, particularly in late onset sepsis in term infants. Further evaluation is needed to determine whether procalcitonin helps to reduce use of antibiotics and helps in cost-effectiveness.

1371

COMPLICATIONS ASSOCIATED WITH INSERTION OF PERCUTANEOUS CENTRAL VENOUS LINES

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Objective: To analyse the complications involved in insertion of central venous lines (CVL). To determine the association of Coagulase negative staphylococcal (CONS) sepsis with CVL duration.

Method: Prospective study of percutaneous CVL insertions over a 4 month period (Aug'2009-Nov' 2009) in Nottingham City Hospital (a UK Level 3 non-surgical Neonatal intensive care unit). Data were collected from the notes of those babies in whom a percutaneous CVL was inserted.

Results: Twenty seven babies (23-40 weeks gestation, median 32 wks) had 36 percutaneous central venous lines inserted during the study period. The indications were predominantly for administering parental nutrition and/or for inotropes. 35 (97%) of insertions were completely documented in notes using a proforma. Twelve (33%) of the line insertions were associated with complications such as blockage (5), extravasations (2), coiled (2) and CONS sepsis (3). Complications were more common using 1 French lines (10/26) compared to 2 French lines (2/10). Median duration of line placement was 6 days, ranging from 1 to 32 days. Three babies (11%) became unwell with CONS sepsis confirmed by blood cultures, two of these having had the line in for more than 14 days. In all three occasions the line was removed and the baby treated successfully with antibiotics.

Conclusion: This study showed a high incidence of percutaneous CVL complications (33%), less frequent when using 2 French lines. Strict aseptic precautions should be adhered to during line insertions and line removal should be considered if sepsis is suspected.

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SEVERE NEONATAL CENTRAL NERVOUS SYSTEM INFECTION - A RARE INFECTION BY PARECHOVIRUS 3

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Background: Enteroviruses (EV) are an important cause of neonatal disease including hepatitis, meningoencephalitis, and myocarditis that can lead to death or severe long-term sequelae. Less is known about severe neonatal infection caused by the parechoviruses (PeV) of which type 1 (PeV1) and type 2 (PeV2) were previously known as echovirus 22 and echovirus 23. They belong to the same family of Picornaviridae as the EV. Of the PeV, so far only PeV3 has been associated in 2 recent reports with severe neonatal infection including involvement of central nervous system.

Clinical cases: Both neonates were admitted and treated for refractory septic shock and refractory focal fits. Investigations revealed structurally normal hearts with raised TroponinI with normal EEGs and USG head. However 1st neonate showed significant changes on MRI head and blood as well as CSF PCR revealed Parechovirus. Whereas second neonate had blood PCR positive for Parechovirus with normal cranial images.

Conclusion: HPeV is another important cause of viral sepsis and meningitis in neonate and young children that has frequently been undetected. HPeV-specific PCR should be included in viral diagnostic testing for CSF samples help diagnosis, duration of antibacterials, as well as prognosis. Continued research on neonates with HPEV-3 infection is neededto further understand this disease.