Guidelines for Suspected Occult Infection in Young Infants (Rule Out Sepsis)  
(Infants Age 0-2 months)

Febrile infants, aged 0-2 months, with signs and symptoms consistent with occult bacterial infection such as decreased feeding, lethargy, or irritability, but who do not appear toxic or have focal signs of infection, have usually been evaluated, treated and admitted pending culture results- a so called ‘rule out sepsis’ admission.

After an appropriate evaluation in an outpatient setting or emergency department (ED), which would include cultures of blood, urine, and CSF, antibiotic therapy is usually initiated. These infants have been admitted for observation and continued antibiotic therapy. If serious bacterial infection has been ruled out by negative blood, CSF and urine cultures and appropriate continuing care can be assured, these patients have usually been discharged after 48-72 hours. Recent publications and analysis of CHRMC data suggests that hospitalization observation pending culture results can be safely reduced to 36-48 hours, thereby reducing medical costs and family stress, and decreasing the risk of iatrogenic complications:

1. Recent studies have demonstrated that the rate of bacterial sepsis has declined substantially since the introduction of Hemophilus conjugate vaccines. The rates for positive cultures with pathogenic organisms are now 1 to 2%.  
2. Today the most common cause of outpatient bacterial sepsis or meningitis is S. pneumoniae.
3. Automated continuous monitoring of blood cultures (BACTEC 9240) allows for earlier detection of positive blood cultures.
4. CHRMC data from January 1996 to July 1997 revealed that overall (combined blood, urine and CSF samples) 65%, 91%, 98% and 100% of patients with true positive cultures had been identified by the laboratory at 24, 36, 48, and 72 hours, respectively. Among only four patients who had a sample that became positive after 36 hours, one had another sample that had grown positive earlier and two others were thought very likely to be contaminants. Only one patient in 989 had a true bacterial infection that was not identified in the first 36 hours.

Based on these data, we believe a previously healthy, non-toxic febrile infant without focal findings or known risk factors for bacterial infection (i.e. immune deficiency, know exposure) can be discharged at 36-48 hours if blood, urine, and CSF cultures are negative and follow-up can be assured. Discharge planning should begin on admission. The family should be informed prior to discharge of the possible need for reexamination and the remote possibility of readmission and will need to be available by phone for 48 hours following discharge, should a positive culture be reported. The following guideline below is suggested as the starting point in planning care of a young infant with suspected occult bacterial infection.

**Target Population:** Non-toxic infants 0-2 months of age with suspected occult bacterial infection based on fever (>38.0 degrees C) associated with signs of illness such as decreased appetite, lethargy, or irritability without focal signs of infection.

**Exclusions:** Premature infants – (generally those born 4 weeks early) (calculated from last menstrual period or date of conception) who appear toxic, have focal signs of infection or who are at high risk for serious bacterial infection due to known exposures; immune deficiencies or other factors; infants of families for whom follow-up cannot be assured.

If admission symptoms persist or positive cultures have been identified, this Clinical Path no longer applies.

References: