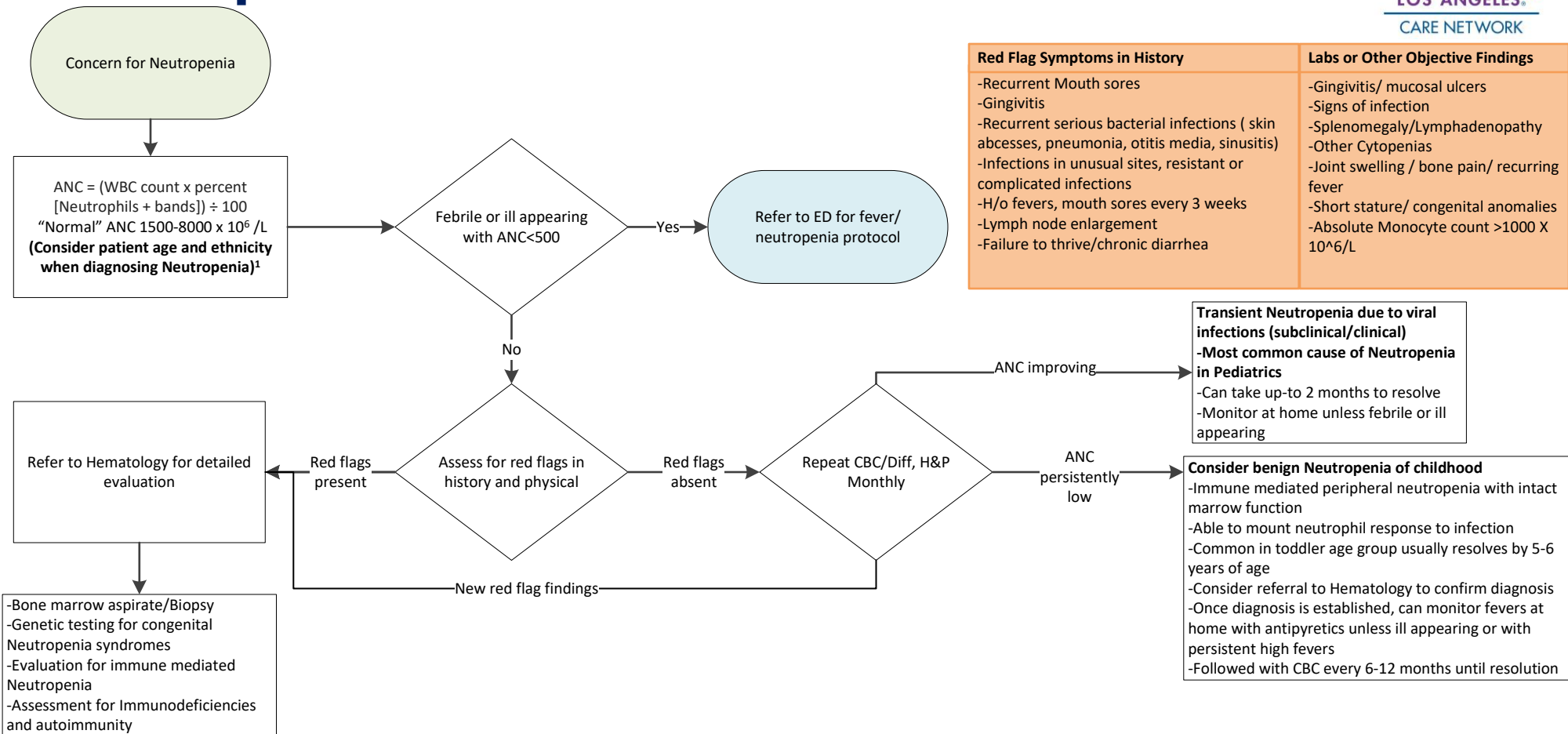


Neutropenia



Red Flag Symptoms in History	Labs or Other Objective Findings
<ul style="list-style-type: none"> -Recurrent Mouth sores -Gingivitis -Recurrent serious bacterial infections (skin abscesses, pneumonia, otitis media, sinusitis) -Infections in unusual sites, resistant or complicated infections -H/o fevers, mouth sores every 3 weeks -Lymph node enlargement -Failure to thrive/chronic diarrhea 	<ul style="list-style-type: none"> -Gingivitis/ mucosal ulcers -Signs of infection -Splenomegaly/Lymphadenopathy -Other Cytopenias -Joint swelling / bone pain/ recurring fever -Short stature/ congenital anomalies -Absolute Monocyte count >1000 X 10⁶/L

Transient Neutropenia due to viral infections (subclinical/clinical)
-Most common cause of Neutropenia in Pediatrics
 -Can take up to 2 months to resolve
 -Monitor at home unless febrile or ill appearing

Consider benign Neutropenia of childhood
 -Immune mediated peripheral neutropenia with intact marrow function
 -Able to mount neutrophil response to infection
 -Common in toddler age group usually resolves by 5-6 years of age
 -Consider referral to Hematology to confirm diagnosis
 -Once diagnosis is established, can monitor fevers at home with antipyretics unless ill appearing or with persistent high fevers
 -Followed with CBC every 6-12 months until resolution

1 –Whenever feasible confirm true neutropenia by adjusting for age and ethnicity
 25% to 50% of persons of African descent and some ethnic groups in the Middle East have benign ethnic “neutropenia”, with low leukocyte and neutrophil counts.
 Lower limit of ANC can be down to 1000. This is related to a genetic polymorphism and is not a disease condition but rather a normal variant. It does not increase infection risk and does not need any intervention. If there are no clinical signs or symptoms of functional neutropenia and ANC remains at baseline, no further workup is needed.

Variations by Age: Lymphocyte predominance is normal in early childhood in WBC differential

Age	Lower limit of ANC	Lymphocyte/Neutrophil (%)
0-1 week	3000	30/60
1 week -2 years	1000	60/30
Up to 5 years	1500	50/40
Teenage – adult	1500	30/60

A note on infectious risk due to Neutropenia -
 -90% of mature neutrophils in the body reside within the bone marrow and are mobilized at time of infection
 -Infectious risk is highest in disorders of neutrophil production in the marrow and poor mobilization than in peripheral neutropenia
 -Infectious risk correlates with degree of neutropenia from bone marrow suppression, ANC <500 associated with increased risk of sepsis