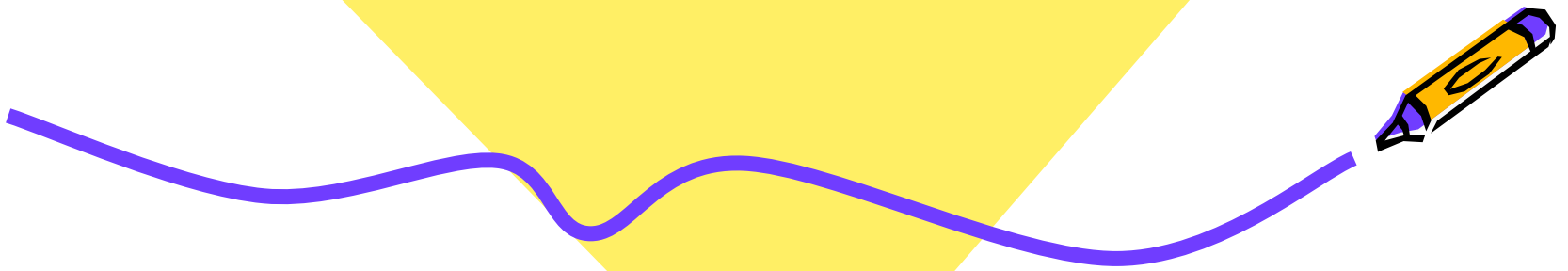




Subacute Adenitis

Ann M. Loeffler, MD



Lymphadenitis

- Swelling and hyperplasia of sinusoidal lining cells
- Infiltration of leukocytes
- +/- abscess formation
- Granulomatous or non-granulomatous



Pyogenic adenitis



- Typically:
 - Acute onset
 - Neck lymph nodes (inguinal or axillary)
 - Usually solitary node
 - Over days, becomes red, warm, and tender



Pyogenic adenitis

- Typically:
 - Worsens in days
 - Associated with systemic symptoms
 - Pre-school aged children



Strep adenitis



Pyogenic adenitis

- *Staph aureus* and Group A Strep are most common pathogens (GBS in young infants)
- Early treatment may avoid surgical drainage
- Partially treated pyogenic adenitis can mimic indolent adenitis



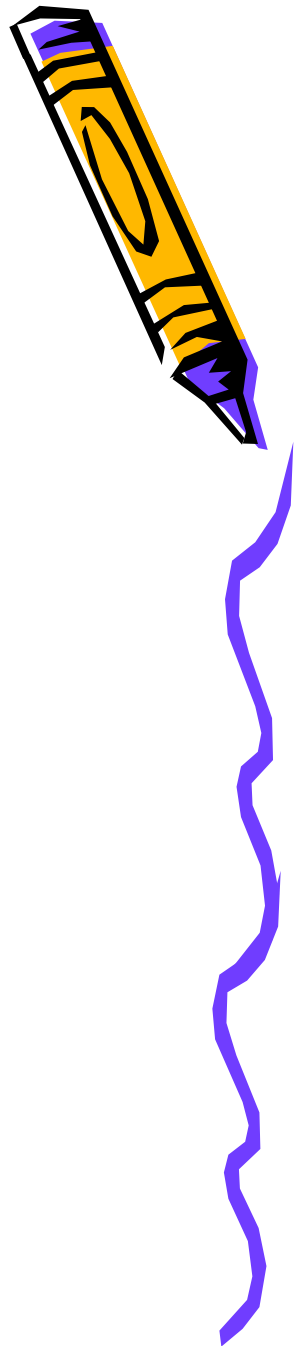
Indolent adenitis

- Rare causes:
 - Sporothrix
 - Tularemia
 - BCG adenitis
 - Bubonic plague
 - Toxoplasmosis



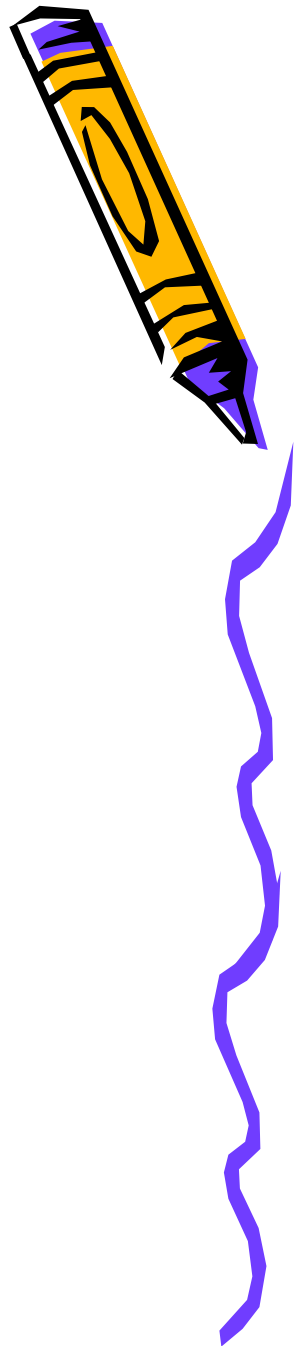
Venereal inguinal buboes

- Chancroid
- Lymphogranuloma venereum (LGV)
- Primary genital herpes
- Syphilis



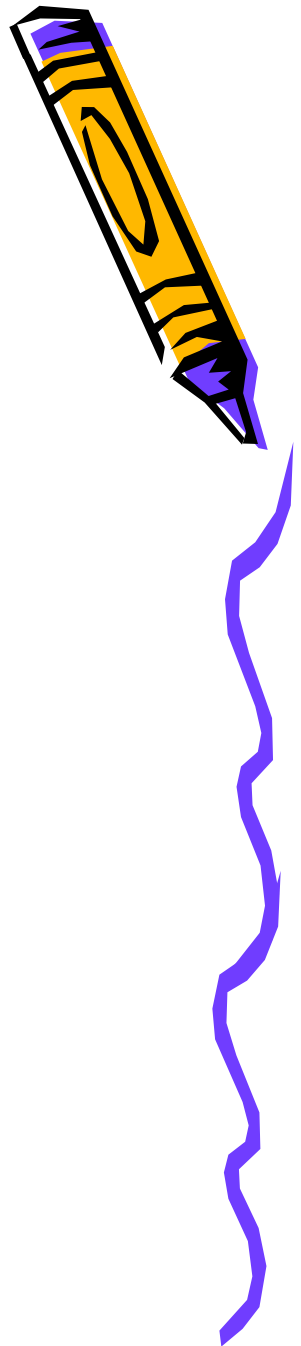
"The big three"

- Cat Scratch Disease (CSD)
 - *Bartonella henselae*
- Atypical mycobacteria
- *M. tuberculosis*



Cat Scratch Disease

- Follows animal contact
 - Usually a kitten
 - With fleas
 - Who spends time outdoors
 - Born in the spring estrus



Cat Scratch Disease

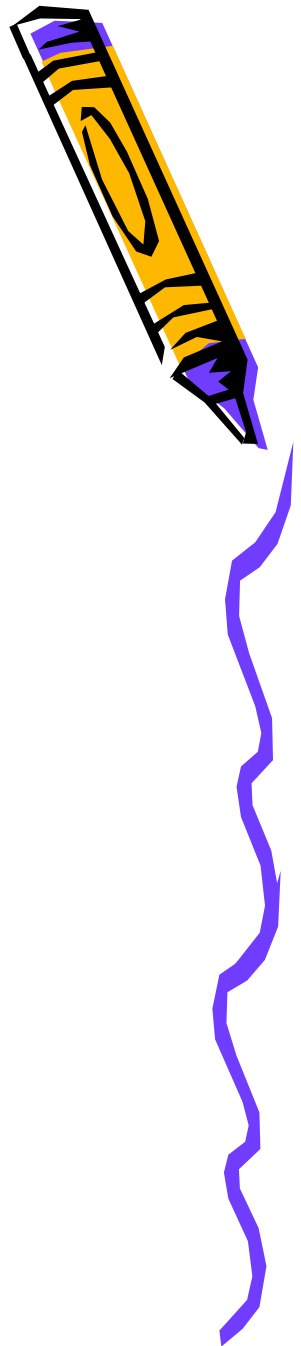


- Most common in children 2 - 14 yrs
- Inoculation papule or pustule may be found



Cat Scratch Disease

- Regional lymphadenopathy
 - Axillary
 - Cervical / Submandibular
 - Preauricular
 - Epitrochlear
 - Inguinal



Cat Scratch Disease

- 50% more than one node
- Multiple sites 20%



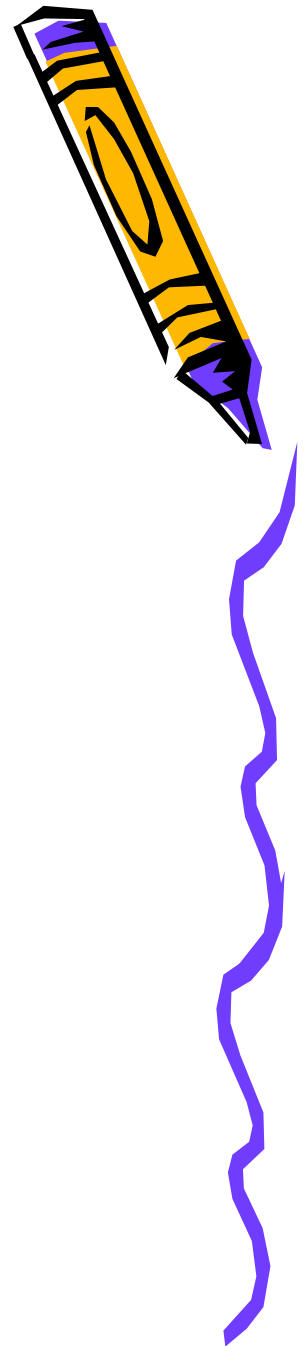
CSD Adenopathy



- Follow cat scratch by several weeks
- Nodes gradually enlarge, become tender
- Overlying skin is initially normal, becomes dusky red and indurated



CSD Adenopathy

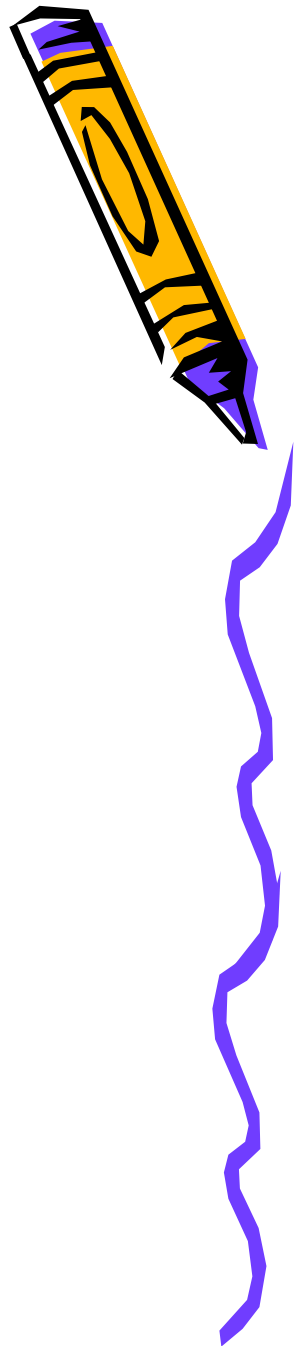


- 10 - 40% suppurate
- Occasional sinus tract formation
- Nodes enlarge for 4 - 6 weeks
- Eventually spontaneously resolve



CSD Adenopathy

- Diagnosis
 - Exposure to kitten
 - Scratch slow to heal
 - Inoculation papule or pustule
 - Negative Tuberculin Skin Test (TST)



CSD Adenopathy



- Diagnosis
 - Failure to respond to antibiotics
 - Aspiration cultures, AFB studies negative
 - Pathology - caseating granulomata
 - Serologies: *B. henselae* and *B. quintana*



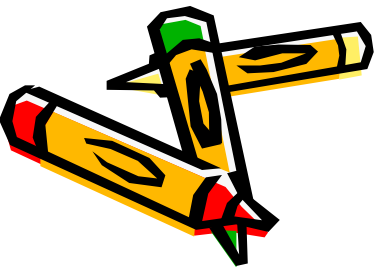
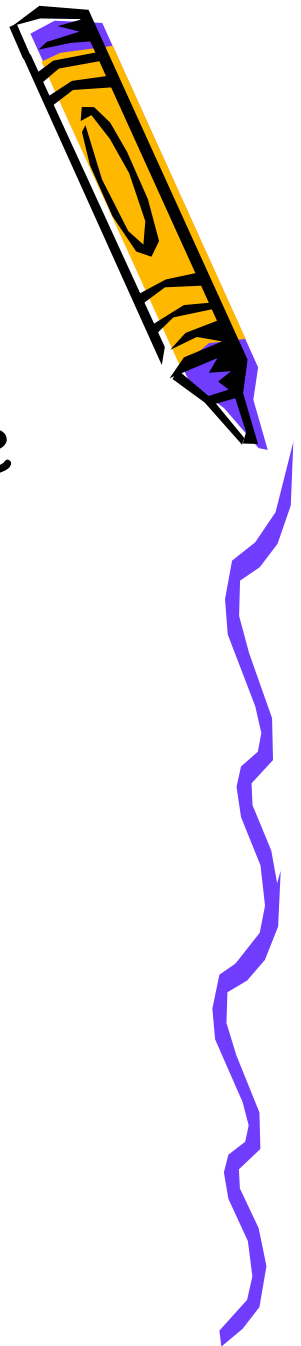
CSD Treatment

- Supportive care
 - Needle aspiration for very tender node
 - Excisional biopsy if other diagnosis strongly considered
 - Malignancy
 - Nontuberculous mycobacteria
 - Medical management
 - Azithromycin with or without rifampin (not proven to help)

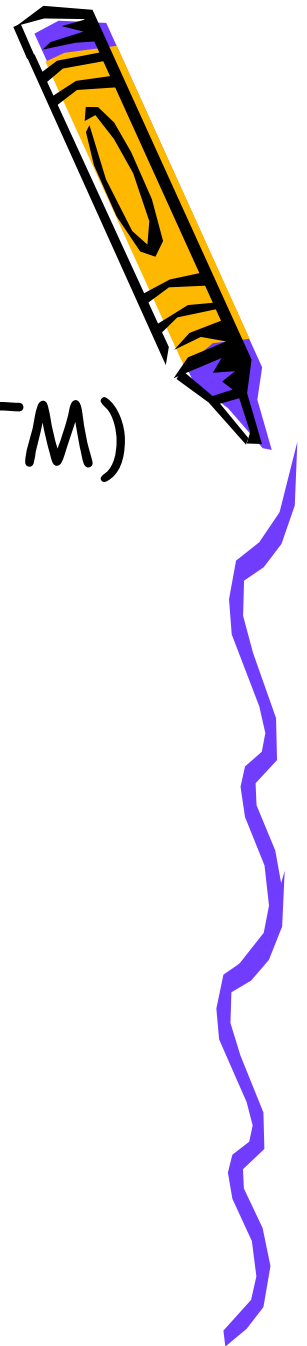


CSD - other manifestations

- Perinaud's oculoglandular syndrome
- Osteomyelitis
- FUO - Hepatic or splenic granulomata
- Skin lesions
- Eye disease
- Encephalopathy



Mycobacterial scrofula



- Nontuberculous mycobacteria (NTM)
 - MAC
 - *M. scrofulaceum*
 - *M. kansasii*
 - Others
- *M. tuberculosis* complex (TB)
 - *M. tb* & *M. bovis*

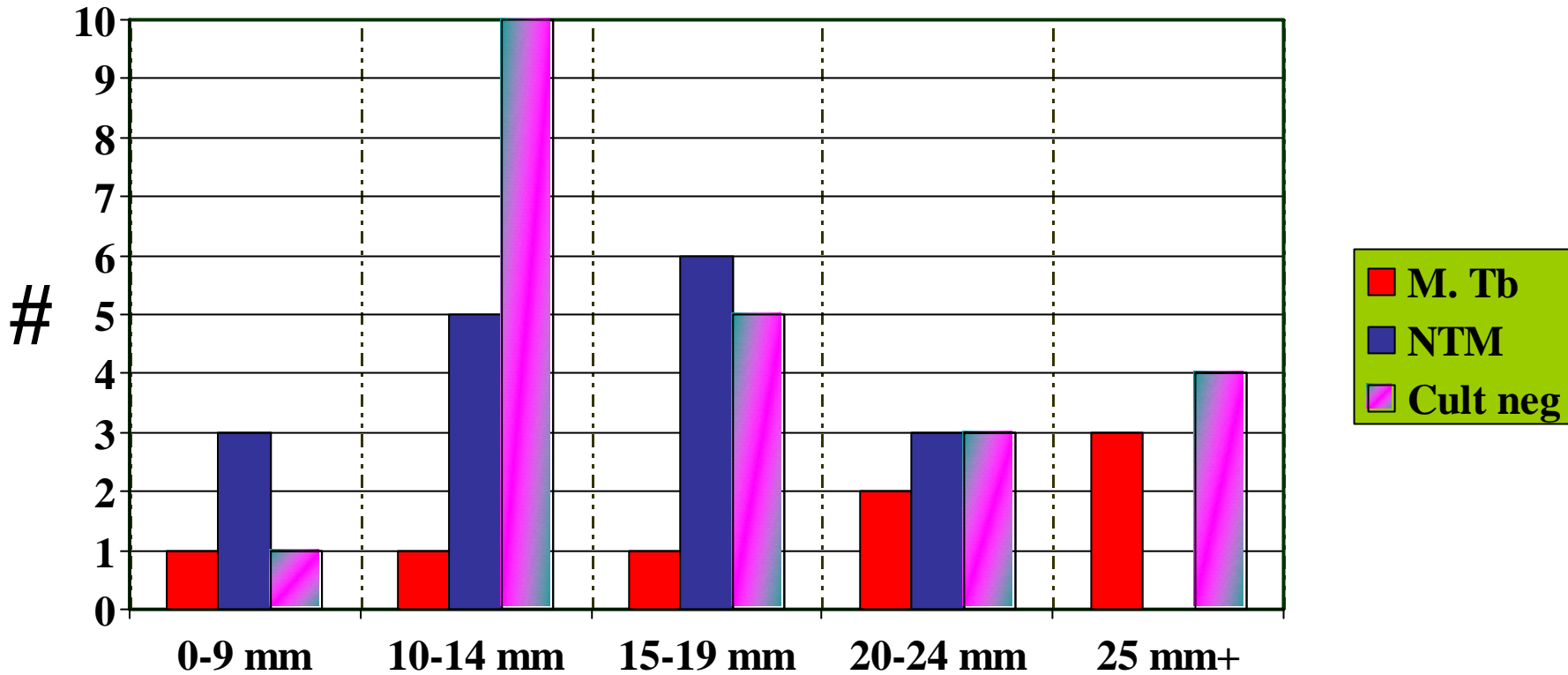


Mycobacterial scrofula

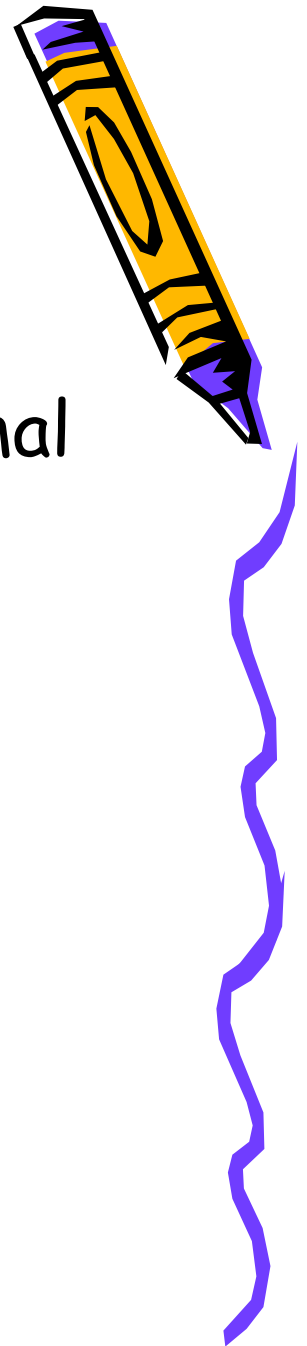
	Nontuberculous	TB
TST reaction	Modest	Larger
TB exposure	Absent	Present
Race / ethnicity	Any	Minority
Age	1 – 4 years	Typically older
Location	Submandibular	Cervical / other
Response to Tx	Scant	Good in kids

PPD Distribution

All Culture Results

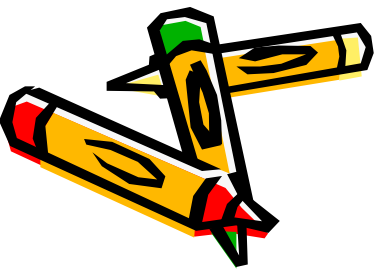
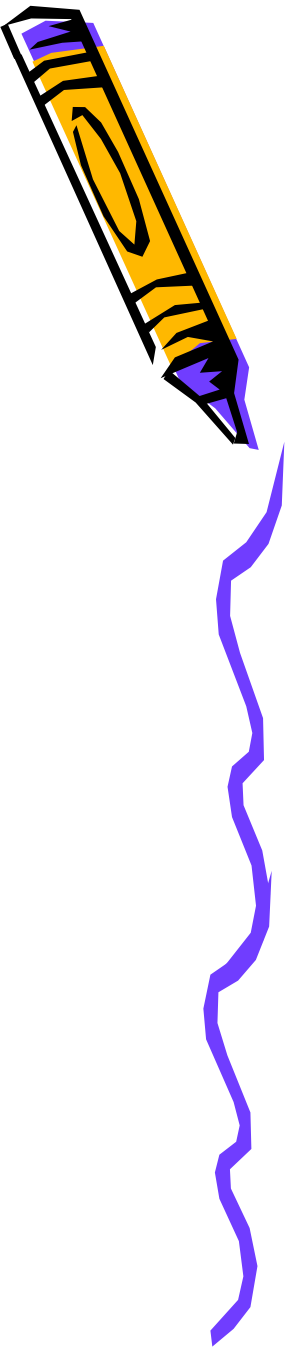
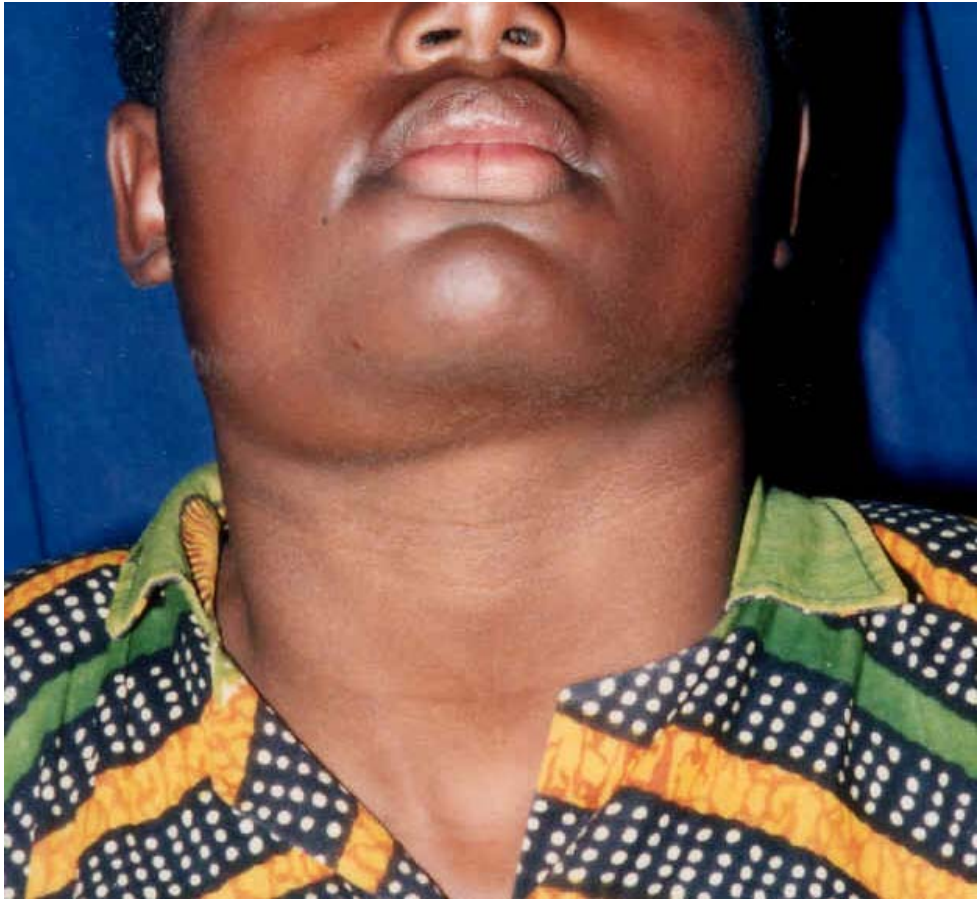


Mycobacterial scrofula



- Gradually enlarging nodes (not the normal modestly enlarged, not changing lymph nodes)
- Nodes suppurate / become fluctuant
- Skin looks dusky / pink - purplish
- Skin thins and flakes
- Node adheres to the overlying skin
- Draining sinus sometimes follows





Mycobacterial scrofula



- Treatment
 - If suspected NTM, ask most experienced pediatric neck surgeon to resect the entire node
 - If TB suspect seek a source case with an abnormal radiograph. If cultures from the source case are imminent - forgo surgical intervention



Mycobacterial scrofula



- If the diagnosis is uncertain, the node can usually be aspirated without creation of a sinus tract
- Avoid incision / drainage of a suspected scrofula
- AFB smears and cultures frequently negative (NTM > TB)



Mycobacterial scrofula



- If excisional surgery **IMPOSSIBLE** (facial nerve risk)
 - Consider empiric medical therapy
 - Four drug TB therapy
 - Three drug NTM therapy (clarithromycin, rifampin or rifabutin, ethambutol)
 - Sometimes use 5 drugs to cover both
 - Rapid improvement on TB therapy +/- clarithromycin suggests TB





Start of therapy

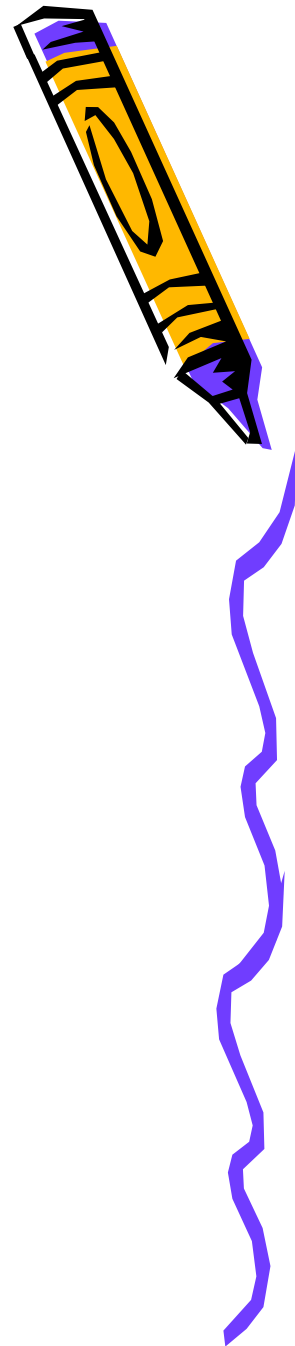
Photo courtesy of Robert G. Allison, MD.

NTM Case

End of therapy



Photo courtesy of Robert G. Allison, MD.



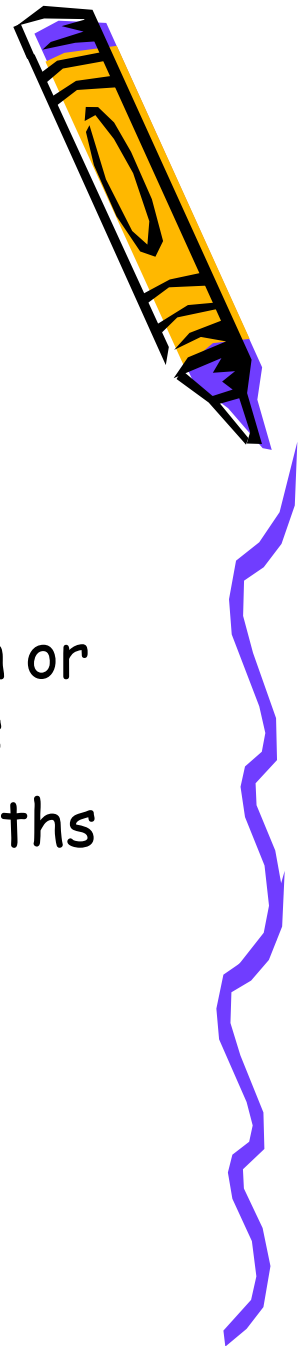
Mycobacterial scrofula



- Treatment regimens
 - TB treatment by directly observed therapy
 - INH, rifampin, pyrazinamide and ethambutol 5 - 7 days per week for 2 months
 - Followed by INH and rifampin twice weekly for 4 more months
 - *M. bovis* inherently resistant to PZA - minimum 9 months



Mycobacterial scrofula



- Treatment regimens
 - NTM
 - Clarithromycin or azithromycin, rifampin or rifabutin, ethambutol daily for 3 months
 - Clarithromycin daily for three more months
 - Monitor hearing and vision



Summary

- Many infectious and non-infectious etiologies cause lymphadenitis
- Pyogenic, CSD and mycobacterial disease are most common causes of indolent adenitis



Summary

- Diagnosis is made on clinical / demographic grounds with aid of TST and CSD titers
- Treatment is primarily surgical for atypical mycobacteria
- Treatment is primarily medical for TB



Summary

- Medical treatment is sometimes used for NTM scrofula which is inoperable
- CSD nodes usually resolve without cosmetic sequelae
 - Serial drainages may be needed
 - Medical management rarely indicated

