

## Down Syndrome Health Guidelines — 0 to 12 Years updated 2/2/10

### In Addition to Recommended Well Child Practices

		Age in years												
Medical Issues	At Birth or Diagnosis	6 mo	1	2	3	4	5	6	7	8	9	10	11	12
Karyotype & Genetic Counseling														
Growth/ Nutrition <sup>1</sup>		Review growth at every visit. Use DS growth charts.												
					Celiac screen <sup>3</sup>	BMI at every visit after age 2, consider annual nutrition referral. Encourage physical activity, high fiber healthy diet, use low fat milk, avoid sweet beverages.								
Behavior/ Development <sup>2</sup>	Arrange for Early Intervention				Obtain educational evaluation- review behavior- sibling adjustment- recreation- socialization- puberty/sexuality/pregnancy.									
Pneumococcal 23 & influenza	Consider Synagis			Consider PPV23 after age 2.										
				Give flu vaccine unless contraindicated.										
Parent Support	Ensure family is connected with MDSC ( <a href="http://www.mdsc.org">www.mdsc.org</a> ). Consider referral to DS program at CHB.	Assess needs and offer resources at every visit: support groups/organizations, sibling issues, respite, recreational, sexuality, financial planning.												
Hearing /ORL	ABR or OAE by 3 mos.	Full audio. assess. at 6-10 mo. for all babies, and every 6 mo. until age 3 yr. Annual referral to audiology for hearing assessment after age 3. Screen for obstructive sleep apnea at every visit, obtain sleep study if +.												
Vision		Check for Strabismus, cataracts, nystagmus by 6 mos. Annual referral for vision assessment.												
Dental	Risk assessment by 6 mos.	First dental visit by 1 year of age and every 6 months with cleaning thereafter. Diet low in sweets, fluoride in water, toothbrush 2x/day.												
Cardiology <sup>4</sup> And Renal	Echo Renal US	If cardiac defect is present ensure cardiology follow up, consider Synagis, PPV 23 and flu vaccinations.												
Hematology <sup>5</sup>	CBC & diff													
Thyroid <sup>6</sup>	Verify state screening (congenital 1%)	TFTs for acquired hypothyroidism <sup>6</sup> . Monitor weight and height annually.												
Atlantoaxial Instability or Subluxation		Spine X rays at age 3 <sup>7</sup> Neuro exam and ROS (including neck or behind the ear pain, abnormal head position, motor/sensory/bowel abnormalities) at each visit. After age 3, obtain imaging studies/consultation if symptomatic or in contact sports.												

Other Common problems associated with DS: hypotonia, respiratory tract infections, otitis media (50-75%), hearing loss (75%), obstructive sleep apnea (50-75%), eye disease (60%), GI atresias (12%), and acquired hip dislocation (6%).

<sup>1</sup> At risk for feeding problems, obesity, constipation, duodenal atresia, osteopenia, celiac disease, and Hirschsprung.

<sup>2</sup> At risk for depression, ADHD, oppositional behavior, and seizures-particularly infantile spasms in the first 2 years.

<sup>3</sup> IgA antitissue transglutaminase, IgA endomysial antibody, and total IgA at age 2-3. Consider referral to GI if screen is positive. Repeat screen if indicated.

<sup>4</sup> 50% prevalence of heart defects, 3% with renal abnormalities

<sup>5</sup> At risk for leukemoid reactions, polycythemia (18%), and leukemia (1%).

<sup>6</sup> 15% prevalence of thyroid disease. TFTs = TSH, & free T<sub>4</sub>

<sup>7</sup> Cervical spine x-rays: flexion, neutral and extension. The AAP Committee on Sports Medicine and Fitness recommends careful history and physical for signs and symptoms of spinal cord injury as the best clinical predictor of symptomatic atlantoaxial instability or subluxation; Xrays are not the best predictor.