Congenital Hypothyroidism (T4)

NBS DBS

T4 Screening

Normal

(>10%)

Low

(<10%)

No further action required

TSH assay of DBS

TSH normal

Initial T4 assay and/or risk factors assessed

TSH inconclusive

TSH elevated

T4 = 3 – 10%

>1500 gm

T4 = <3%

>1500 gm

High Risk Group*

<24 hrs. age

>24 hrs. age

Confirmatory serum test(s)*

No further action required

Repeat DBS testing

Repeat DBS testing* (return to top)

Repeat DBS testing* (return to top)

Confirmatory serum test(s)*

T4 >10%

or

T4 3-10% & TSH normal

T4 <10%

TSH elevated

T4 <3% x 2

No further action required

Confirmatory serum test(s)*

Confirmatory serum test(s)*

Confirmatory serum test(s)*

*High risk group

<1500 gm

NICU admission

Same-sex twin

Transfusion

CHD/other severe congenital anomaly

Drugs: dopamine, steroids, iodine

*Confirmatory Serum Tests

Free T4 [or] T4 and T3 resin uptake (T3RU)

TSH

Actions are shown in shaded boxes, while results are in the unshaded boxes.

Abbreviations/Key

NBS = Newborn screening

DBS = Dried Blood Spot

T4 = Thyroxine or total thyroxine

TSH = Thyroid Stimulating Hormone

CHD = Congenital Heart Disease

Disclaimer: This guideline is designed primarily as an educational resource for clinicians to help them provide quality medical care. It should not be considered inclusive of all proper procedures and tests or exclusive of other procedures and tests that are reasonably directed to obtaining the same results. Adherence to this guideline does not necessarily ensure a successful medical outcome. In determining the propriety of any specific procedure or test, the clinician should apply his or her own professional judgment to the specific clinical circumstances presented by the individual patient or specimen. Clinicians are encouraged to document the reasons for the use of a particular procedure or test, whether or not it is in conformance with this guideline. Clinicians also are advised to take notice of the date this guideline was adopted, and to consider other medical and scientific information that become available after that date.