NBS DBS T4 Screening

Normal (>10%)
- No further action required

Low (<10%)
- TSH assay of DBS
  - TSH normal
    - Initial T4 assay and/or risk factors assessed
      - T4 = 3 – 10% >1500 gm
        - No further action required
      - T4 = <3% >1500 gm
        - Repeat DBS testing
  - TSH inconclusive
    - Repeat DBS testing (return to top)
  - TSH elevated
    - Confirmatory serum test(s)a

- T4 >10% or T4 3-10% & TSH normal
  - T4 <10% TSH elevated
    - Confirmatory serum test(s)a
  - T4 <3% x 2
    - Repeat DBS testing (return to top)

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

*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

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.

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