

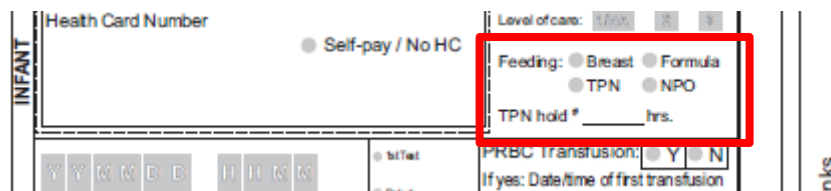
Recommended Newborn Screening Protocol for Infants Receiving TPN/Amino Acid Solution

TPN administration affects screening for some amino acid disorders, leading to false positive newborn screening results. To reduce the occurrence of false positive results, Newborn Screening Ontario (NSO) recommends **all neonatal units hold TPN/amino acid solutions for 3 hours prior to newborn screening sample collection**, when possible. Since 2020, Level III units in the province have successfully rolled out this best practice change, and in 2023, formal communication was sent to Level II units to implement this change. We have observed a reduction in the number of false positive screening results since this practice was implemented. Holding TPN administration prior to obtaining the dried blood spot sample is the standard of care.

Suggested Newborn Screening Protocol for Infants on TPN/Amino Acid Solution:

(This applies for all newborn screens collected while the baby is still on TPN)

1. Obtain a physician order to hold the TPN/amino acid solution for 3 hours prior to collecting the newborn screening dried blood spot sample.
2. Hold TPN/amino acid solution. Note: only the amino acid component of the TPN needs to be held.
3. Prepare and administer alternate solution. D10/W (10% dextrose in water) is an inexpensive, readily available, and appropriate replacement solution for most patients; however, the treatment team can order an alternate amino acid-free solution based on unit preferences and patient requirements.
4. After the TPN/amino acid solution has been held for 3 hours, collect the dried blood spot sample.
5. On the NSO form, indicate that the TPN was held by checking off “TPN” and indicating the number of hours it was held in the space provided.



The image shows a portion of the NSO form for an infant. A red box highlights the 'Feeding' section, which includes radio buttons for 'Breast', 'Formula', 'TPN', and 'NPO'. Below this, there is a field for 'TPN hold # _____ hrs.'. Other visible fields include 'Health Card Number', 'Level of care', and 'PRBC transfusion'.

6. Restart TPN/amino acid solution as previously ordered.

For questions related to TPN and dried blood spot sample collection, please call 613-738-3222 ext. 1045 or email us at rnsso@cheo.on.ca.

For all other questions, please email us at newbornscreening@cheo.on.ca

