In most instances, the asparaginase preparation would be discontinued 7 days after the 1st sample.

6 doses of Erwinia asparaginase, 25,000 IU/m², IM at 2-3 day intervals for each scheduled dose of pegaspargase.

With premedication to prevent a clinical allergic reaction if asparaginase levels are monitored.

Administering another dose of pegaspargase should be considered, as well as monitoring future dose levels for continued accelerated terminal-phase disappearance.

Switch to Erwinia Asparaginase^.

Draw Level 1 Week after 1st Level^^.

'1Day 14' Asparaginase:
- < 0.025 IU/mL (accelerated clearance)
- 0.025 - < 0.1 IU/mL (accelerated clearance)
- ≥ 0.1 IU/mL

1st Asparaginase Level was
- 0.05 - < 1.0 IU/mL
- ≥ 1.0 IU/mL

Switch to Erwinia Asparaginase^.

Monitor Next Dose; Consider Increasing Pegaspargase, or Switch to Erwinia Asparaginase.

Continue Scheduled Pegaspargase.


^ In most instances, the asparaginase preparation would be discontinued.

^ 6 doses of Erwinia asparaginase, 25,000 IU/m², IM at 2-3 day intervals for each scheduled dose of pegaspargase.

^ With premedication to prevent a clinical allergic reaction if asparaginase levels are monitored.

^ Administering another dose of pegaspargase should be considered, as well as monitoring future dose levels for continued accelerated terminal-phase disappearance.

^^ 7 days after 1st sample
Why 0.05 IU/mL is the Lower Threshold for Intervention 
instead of previously-used higher levels

**Excerpt from**
Bleyer A, Asselin B, Koontz S, Hunger S.
Pediatr Blood Cancer . 2015;62:5
Correspondence online March 2, 2015

“... Not included in our report are unpublished data from Children’s Oncology Group (COG) clinical trial AALL07P4 (cited by the correspondents) that we were provided by Sigma-Tau Pharmaceuticals and COG. Those data allowed us to compare the last detectable asparaginase activity >14 days after 70 doses of pegasparagase, 2,500 IU/m2, in 42 patients with concomitant asparagine concentrations, the latter measured under conditions designed to prevent ex vivo hydrolysis.3

The only samples with detectable asparagine were the two with the lowest asparaginase activities, 0.014 and 0.016 IU/mL (Figure) Asparagine was undetectable after all 68 doses with asparaginase between 0.02 and 0.20 IU/mL.

1) These data, 2) a prior report,4 and 3) a recommendation from the Journal’s manuscript reviewer(s) led us to select <0.05 IU/mL on days 3* to 7* after dose administration as a threshold for switching to Erwinia asparaginase.”

*depending upon the amount of pegasparagase received (see algorithm on reverse side)


**Reference numbers in original publication