

MS/MS Screening:
To “D” or not to “D”,
that is the question!



Mike Glass vs. Bill Hoffman

Washington State Newborn Screening Program

Whether 'tis nobler in the lab to suffer
The slings and arrows of butanol and HCL.

Or to take arms against derivitizing, and by
opposing end it: to quit, to derivitize no more;
and by not derivitizing, to say we end the
heart-ache, and the thousand natural
problems that derivitizing is heir to?

MS/MS in Washington

- ~ 85,000 babies/year
- ~ 170,000 specimens/year

- MCAD, phe, met, leu in 2004
- Expanded in 2008

- In house - butanolic HCl derivatization with a separate succinylacetone derivatization

Mike: The Trouble With D:

- HCL – corrosion, safety, environment
- Butanol – odor, safety, environment
- Expense – supplies, equipment
- Time – money, through-put

Bill: The Case for D

- Increased sensitivity (particularly with the dicarboxylic acids)
- Butanolic HCl corrosiveness is mitigated by instrumentation that is designed for it (Genevac EZ2 plus HCl)
- Waste generation about 100 ml MetOH and 50 ml butanolic HCl per day feeds into existing ACN and MetOH waste collection systems.

Bill: The Case for D (continued)

- Established method with established cutoff's
- Decreased preventive maintenance needed for the mass spectrometers
- Derivatization is still the pre dominate method world-wide

And the winner is...

BILL!

For now, but the battle isn't over.

Additional reasons for the status-quo:

- TIME - RESOURCES
 - comparative evaluation
 - revising cut-offs
 - rewriting procedures
 - retraining staff
- IT WORKS!