

# BHIPP BULLETIN

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## UNDERSTANDING VYVANSE

Vyvanse is one of the most commonly prescribed psychostimulants. It is also the most difficult to understand in terms of dosing, duration of action, and advantages/disadvantages compared to other psychostimulants. Below are a few questions and responses regarding Vyvanse.

**What is Vyvanse?** Vyvanse is d-amphetamine bound to the amino acid L-lysine.

**How is Vyvanse absorbed?** Some Vyvanse is absorbed slowly in the gastrointestinal tract. Some Vyvanse is absorbed as d-amphetamine after protease enzyme released by the pancreas cleaves d-amphetamine which is absorbed rapidly by an active transporter. Depending on the availability of protease, which increases after a meal, the absorption of d-amphetamine may be delayed from a few minutes to as much as an hour.

**How is the d-amphetamine in Vyvanse released into the blood?** Vyvanse that is slowly absorbed intact is rapidly cleaved by a ubiquitous enzyme in red blood cells, releasing d-amphetamine.

**Is the d-amphetamine in Vyvanse different from the d-amphetamine in any other preparation?**  
No.

**How much d-amphetamine is in each Vyvanse capsule?** Surprisingly and unfortunately, this information is not available in the package insert. This makes prescribing more difficult. In a 40 mg Vyvanse capsule there are approximately 25 mg of d-amphetamine.

**What are the advantages of Vyvanse compared to other available amphetamine preparations for ADHD?** Vyvanse has less abuse potential than other amphetamine preparations because it is not effective if taken intravenously or nasally. This may be important when there is risk of diversion to substance abusers.

**What are the potential disadvantages of Vyvanse compared to the other available amphetamine preparations for ADHD?**

1. Vyvanse is basically delayed-release d-amphetamine. The delay in release can be problematic for children and families trying to manage morning routines.
2. Vyvanse may cost more than d-amphetamine.
3. Although the duration of action of Vyvanse is advertised as 12 hours, it shouldn't be substantially different from d-amphetamine, which has a half-life of about 4-6 hours and a duration of action of 6 to 8 or more hours, depending on dose.

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