

## “Hit-and-Run” Actions at Dopamine Receptors, Part 2

# Illustrating Fast Dissociation From Dopamine Receptors That Typifies Atypical Antipsychotics

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**Issue:** A new hypothesis to explain why atypical antipsychotics have antipsychotic properties without inducing motor side effects is that these drugs rapidly dissociate from dopamine-2 receptors (“hit-and-run” action).

In last month’s BRAINSTORMS,<sup>1</sup> we discussed a new hypothesis on the mechanism of action of atypical antipsychotics, namely the “hit-and-run” hypothesis.<sup>2</sup> Here we illustrate this concept.

### REFERENCES

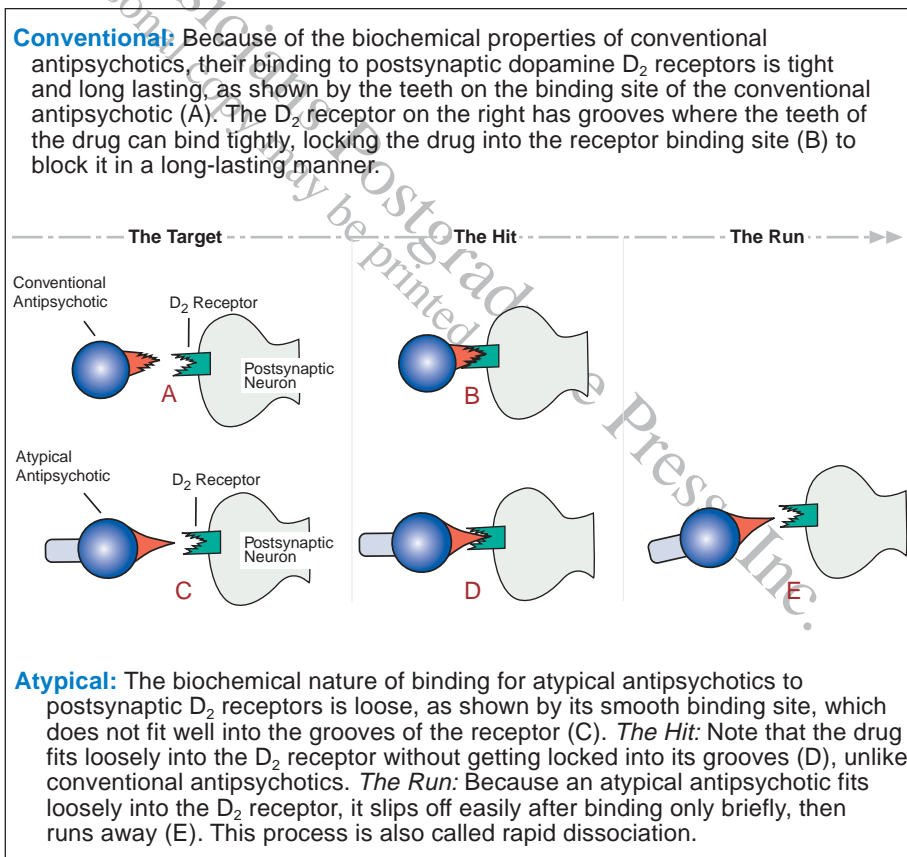
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2. Kapur S, Seeman P. Does fast dissociation from the dopamine 2 receptor explain the action of atypical antipsychotics? a new hypothesis. *Am J Psychiatry* 2001;158:360–369

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Figure 1. Conventional vs. Atypical Antipsychotic Mechanisms



Shown below are the curves of D<sub>2</sub> receptor blockade as well as the concomitant clinical effects after 2 doses of either a conventional (Figure 2) or an atypical antipsychotic (Figure 3).

Figure 2. Hypothetical Action of a Conventional Antipsychotic Over Time

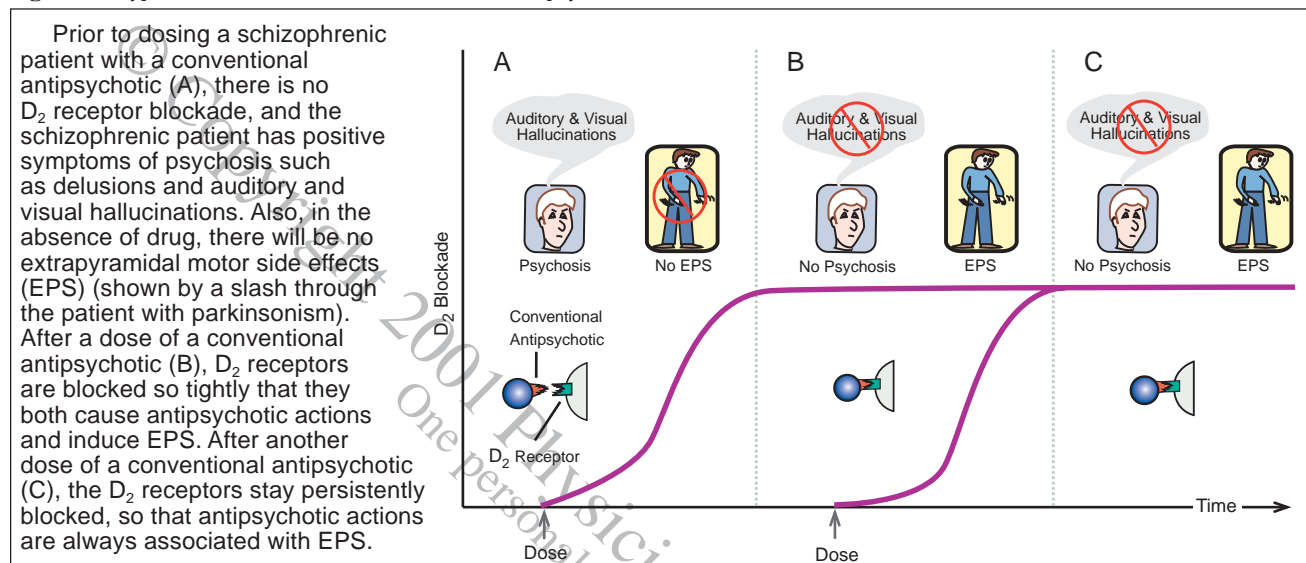


Figure 3. Hypothetical Action of an Atypical Antipsychotic Over Time

