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# Contribution of PET/SPECT functional imaging in Parkinson's disease (PD)

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## Résumé

Functional imaging such as positron emission tomography (PET) and single-photon emission computed tomography (SPECT) are powerful tools to investigate the pathophysiology of PD and the mechanisms of the progression of this disease. They provide an excellent means for the *in vivo* study of molecules in the brain using radiotracers labeled with radioactive isotopes that bind specifically to biological targets. These imaging techniques play an essential role in assessing the efficacy of putative neuroprotective and restorative therapy such as implants of specific genes or fetal cells. This presentation will provide a brief introduction of PET exams proceeding in Parkinson patients, introduces the pre- and postsynaptic dopaminergic systems that PET and SPECT can target and finally will provide an overview of the clinical applications of these imaging techniques to study the pathophysiology of Parkinson disease and evaluate therapeutic strategies such as gene and cell replacement therapies in previous and ongoing clinical trials.

**Mots-Clés:** Parkinson, imaging, PET

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