The National Comprehensive Cancer Network now recommends BRCA1/2 genetic testing in men with metastatic prostate cancer. The purpose of this article is to provide a review of principles of genetic testing in prostate cancer and highlight the significance of clinical genetic testing of BRCA1/2 and other genes (CHEK2, HOXB13, PALB2), including Lynch syndrome genes (MLH1, MSH2, MSH6, and PMS2) in men with metastatic prostate cancer. The potential impact of genetic testing on systemic treatments and the significance of the pathogenic results for at-risk family members is discussed.

**KEYWORDS:** BRCA1/2; Lynch syndrome; genetic testing; metastatic prostate cancer