

## **PRACTICAL IMPLICATIONS**

1. Both the severity of endometriosis and previous infertility should be considered when planning infertility treatment. Patients with suspected endometriosis and with several previous unsuccessful IVF attempts should undergo combined treatment of endometriosis.
2. Patients undergoing infertility treatment should also be counselled on lifestyle factors during treatment. Women should be advised to continue their normal active lifestyle or at least not to reduce their physical activity.
3. As the menstrual cycle significantly affects the expression of endometrial genes, this should definitely be taken into account in endometrial molecular studies. When using archived endometrial biopsies for research, it should first be determined at what phase they have been collected. Based on our studies, for example, an endometrial receptivity test with a limited number of genes can be used for this purpose.
4. Further research is needed to investigate the molecular mechanisms of endometriosis. To find new target genes, a comparison of endometrial and endometriotic lesions' gene expression has already been exhausted without providing the results usable in practice and new directions are urgently needed. One possible strategy is to treat the endometrial cells from different locations with different chemical compounds to find altered key pathways and bring us closer to the molecular causes of this disease.

