Manage risk of accidental gene editing of germline

Eric Lander and colleagues consider the ethical and safety concerns that distinguish heritable (germline) from non-heritable (somatic) genome editing (*Nature* **567**, 165–168; 2019). However, unintended germline modification could possibly result from well-intentioned somatic genome-editing procedures. We therefore also need to consider how such risks can be mitigated and managed.

For non-heritable genome editing, somatic cells from a consenting adult are edited in the laboratory and then re-implanted. This *ex vivo* approach is unlikely to correct many genetic conditions. Deactivated viruses, liposomes and nanoparticles are therefore being tested as vehicles to convey the genome-editing machinery to faulty cells *in vivo*.

Restricting delivery to specific organs — the brain, for example — might work in some cases. However, treating disorders such as muscular dystrophies might require large parts of the periphery, including the gonads, to be exposed to delivery vectors. It will therefore be crucial to establish an acceptable level of risk to the germline in such cases.

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