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Reply to: Zygoty testing should be encouraged for all same-sex twins. AGAINST: Benefit of this knowledge should be weighed against the potential pitfalls

Sir:

We wish to respond to the counterarguments by Brown (1) regarding our view (2) that “We would like to encourage the standard practice that same-sex twins and their families be advised that if they wish to know the pair’s zygoty, the only way to be certain is to have a zygoty test.”

Brown states the only “issue of medical worth” conferred by zygoty testing is “determining the risk of having more twins” which dismisses our opinion that “postnatally, MZ pairs are perfectly compatible donors for one another” and “diagnosis of a disease in one twin typically means that the co-twin is at increased risk, more so for MZ pairs.”

Brown also ignores the opinions of the twins and their parents who are often plagued about their zygoty by family, friends and strangers (3). Finding out about an incorrect zygoty assumption at a later date may have negative impact on mental health.

Brown’s argument that “knowledge of this information in advance may put undue stress and pressure on individuals regarding a circumstance that, for the majority, will never arise” is misleading because the zygoty test conveys no information about disease susceptibility. Knowledge could only come into play when a co-twin is genetically tested for a particular disease.

Consider the situation in which a disease may be treatable if detected early in a seemingly unaffected twin whose co-twin has been newly-diagnosed, for example in breast cancer and multiple sclerosis. We are also not implying that zygoty testing should be mandatory; taking

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the test should always be a choice. In cases of incurable disease, genetic counsellors can assist although there is no evidence that routine zygosity testing requires genetic counselling.

Brown states that “There are numerous personal, psychosocial and medical factors that influence whether a family member considers being a donor or not. Zygosity alone cannot override these.” We are not suggesting that zygosity alone should determine transplantation suitability but that zygosity knowledge could influence mode of treatment. The decision to donate organs is an individual’s. In one case, an MZ twin had needlessly been given immunosuppressives for more than 15 years after a transplant from his presumed DZ twin brother; the twins were, in fact, MZ (4).

Although chorionicity is more important than zygosity during pregnancy, assumptions that dichorionic twins are always DZ has masked an elevated risk of MZ twinning in *IVF*, as well as the fact that MZ twins carry an elevated risk of adverse health outcomes (5).

We believe it is responsible for medical professionals to inform parents and twins about the benefit of zygosity testing, but it is the parents’ and twins’ basic right to choose whether or not to have the test.

It would appear that some health professionals appear not to recognise the importance of zygosity determination to parents of twins - for fundamental knowledge about their own children - and to the twins for their own sense of self.

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