

**A Novel Theoretical Framework to Address the Gap Between
Universal Guidelines and International Variation in the Threshold for
Abdominal Aortic Aneurysm Surgery**

Regent Lee^{1,2,+}, Lubomira Radoilska^{1,3,+}, Kenneth MW Fulford¹, Ashok Handa^{1,2}

¹. The Collaborating Centre of Values Based Practice in Health and Social Care

². Nuffield Department of Surgical Sciences, University of Oxford

³. Department of Philosophy, University of Kent

+ Authors contributed equally

Corresponding Authors

Regent Lee
Nuffield Department of Surgical Sciences
University of Oxford
regent.lee@nds.ox.ac.uk

Lubomira Radoilska
Department of Philosophy
University of Kent
l.v.radoilska@kent.ac.uk

This is the author-approved version of an article published in the *Annals of Vascular Surgery* 53: 275-277. The final publication is available at:
<http://dx.doi.org/10.1016/j.avsg.2018.05.046>

To the Editor:

Decision making in the treatment of abdominal aortic aneurysms (AAA) has an extensive evidence base with a number of landmark trials informing clinical practice¹. The practice of evidence based medicine, like any other professional practice, rests on some underlying assumptions². At a very general level, they include an implicit understanding of how the theoretical or belief-related and practical or action-related duties of everyone involved are linked. The former set point to an overarching duty of sticking to the facts or ‘getting it right’, the latter, to that of succeeding or ‘getting it done’^{3,4}.

There are two competing models on how to discharge both theoretical and practical duties. They have been developed in response to challenges to rationality as an overall norm. For instance, wishful thinking looks like a clear case of irrationality, which ought to be avoided. Yet, it can be preferable to clear-eyed understanding of how desperate one’s situation is. Acting against one’s better judgment is another standard case of irrationality. While in principle it ought to be avoided, in some situations, such behaviour leads to better outcomes. These and related challenges arise from unrecognised conflicts between the theoretical and practical duties, whose joint fulfilment is required by the norm of rationality.

The two competing models offer different approaches to managing the resulting tensions. On the first, *one-way connection model*, only truth leads reliably to success, not the other way round⁵. Without an accurate assessment of the facts of the matter, we can be lucky, but not successful in performing a task. This model offers clear guidance: first get it right, then get things done. It has been applied successfully to explaining why the comfort wishful thinking offers doesn’t make it an eligible option in terms of rationality. This is because wishful thinking clearly violates truth, the overarching norm of belief. In addition, the advantages it confers are both temporary and costly.⁶ However, this model does not help in cases where theoretical and

practical duties seem to pull in opposite directions. On the second, *ad-hoc connection model*, theoretical and practical duties cannot be fully reconciled⁷. They run two separate pursuits, getting it right and getting it done. Truth and success are as likely to come together as not. This model acknowledges potential conflicts between theoretical and practical duties. It has been successfully applied to cases of positive illusions where ‘overrating oneself’ looks like a rational strategy in so far as it facilitates the achievement of daring goals. Arguably, an accurate assessment of one’s abilities and chances of success might impede agency in such cases.⁸ Still, this model cannot tell us how conflicts between theoretical and practical duties ought to be addressed in principle. The solutions it proposes remain open to the criticism of being arbitrary.

We recently developed a novel, two-way connection framework to resolve the difficulties faced by these two models. It shows that success may lead to truth as reliably as truth to success. In some cases, theoretical duties cannot be fulfilled in advance of practical duties. This is because engaging the believer’s own agency offers a legitimate way to ‘getting it right’ and so to fulfilling the overarching norm of belief. The framework has been successfully applied to identifying cases where the norms of both action and belief can be satisfied as a two-way connection, in contrast to wishful thinking, delusions of grandeur and other forms of irrationality where some norms are satisfied at the expense of others.^{9,10} This framework can help address the gap between universal guidelines and international variation in the threshold for AAA surgery.

Considering the fundamental role it gives to evidence, evidence-based medicine is likely to support an implicit commitment to the *one-way connection model*, according to which theoretical duties take precedence over practical ones. On this model, good clinical practice essentially means compliance with evidence-based guidelines. Alternatively, an implicit commitment to the *ad-hoc connection model* aligns with the view that practical and theoretical duties are often at odds. On this model, evidence-based guidelines are seen as increasingly

irrelevant to good clinical practice – either because they become dated or because they cannot take into account the complexities of real-life clinical cases.

The management of small abdominal aortic aneurysms (AAA), in terms of the adherence to the size threshold for surgery, is a case that illustrates the discrepancy between evidence-based guidelines and real-life practice. Although international guidelines all recommend surgery to be withheld until the AAA reaches 55mm in diameter (for men), recent data from international vascular registries show wide variations between the adherence to this recommendation. In the fee-for-service health care systems, some 40% of AAAs are treated before the 55mm threshold, as compared to the UK whereby <10% of AAAs are treated before 55mm^{11,12}.

Applied to the case of significant international variation in AAA care in spite of homogenous clinical guidelines, the parallel use of these two implicit models can explain two things: first, why the variation occurs at all, and second, why the distribution of greater vs lesser compliance with guidelines across different healthcare systems is as currently observed.

Public-funded systems are likely to centre on a one-way connection model, leading to stricter application of evidence-based guidelines. In contrast, private-funded systems are likely to operate on the ad-hoc connection model, leading to closer alignment with patient choice which may diverge from professional guidelines. The latter point is strongly supported by our recent studies on patients',^{13,14} and clinicians',¹⁵ priorities in AAA care and research¹⁶. The distribution of these two healthcare systems across and within different countries leads to variations in care, according to their respective one-way or ad-hoc connection models.

While these two models explain the current gap between homogeneous guidelines and varying practice in AAA care by making apparent previously unrecognised conflicts between norms of belief and action in the clinic, a new model is needed to address these conflicts. Without such

a model it remains unclear whether and how greater international harmonisation of clinical practice can be achieved.

Drawing on the *one-way connection model*, this would require frequent updating of clinical guidelines worldwide coupled with further peer and institutional pressure to ensure compliance. Drawing on the *ad-hoc connection model*, greater international harmonisation of practice should not be attempted. So, neither approach is up to the task. The first risks being impractical and counterproductive whilst the second fails to acknowledge the issue altogether.

The novel two-way connection framework offers a clear, comprehensive and principled way of reconciling possible conflicts between theoretical and practical duties. It builds on the two implicit models but transcends their limitations. It acknowledges the current gap between homogeneous guidelines and varying practice in AAA care as an important issue. It also upholds the close link between theory and practice, guidance and judgement, evidence and experience. However, this link is dialogical rather than one-way. It allows us to heed equally the theoretical and practical imperatives of getting it right and getting it done.

With respect to AAA care, this means explicit articulation of the criteria of success underpinning treatment in public- vs private-funded healthcare systems. Arguably, these criteria give rise to competing expectations from patients as well as clinicians in these settings. What is more, many clinicians but also patients will move from one setting to the other (ie – a clinician has a private practice concurrent to their public hospital appointment; a patient may wish to utilise private health insurance even in the NHS setting). If professional guidelines fail to acknowledge the potential differences between healthcare systems in terms of what counts as success, the evidence base they rely on risks being either too narrow and unrepresentative or too broad and confusing. By contrast, the two-way connection framework puts in place the

conceptual resources to consider the extent to which alternative criteria of success should shape what counts as evidence conducive to optimising health outcomes.

Drawing on a new theoretical framework, we put forward a compelling explanation of the current gap between universal guidelines and international variation in AAA care. In particular, we showed that there are implicit, yet unrecognised tensions between norms of belief and actions in current AAA care. We also outlined a clear, comprehensive and principled way of addressing this gap. Challenging the assumption that the criteria of success at the heart of alternative healthcare systems are irrelevant to defining what counts as evidence is a first step.

References

1. Management of Abdominal Aortic Aneurysms Clinical Practice Guidelines of the European Society for Vascular Surgery. 2011;41:S1–S58.
2. Rouse J. Practice Theory. In: S. P. Turner and M. W. Risjord, eds. *Philosophy of Anthropology and Sociology* Amsterdam: North-Holland; 2007: 639-681.
3. Hieronymi, P. Believing at Will. In D. Hunter, ed. *Belief and Agency*. Calgary: University of Calgary Press; 2011, 149–187.
4. Littlejohn C and Turri J. *Epistemic Norms*: Oxford University Press; 2014.
5. Railton P. On the hypothetical and non-hypothetical in reasoning about belief and action. In G. Cullity and B. Gaut, eds. *Ethics and Practical Reason*: Oxford Clarendon Press; 1997: 53–79
6. Mele, A. R. Motivated Irrationality.” In A. R. Mele and P. Rawling, eds. *The Oxford Handbook of Rationality*. Oxford: Oxford University Press, 2004: 240–56.
7. Adler JH, M. Non-Evidential Reasons to Believe. In: T. Chan, ed. *The Aim of Belief*; 2013: 141-166.
8. Elga, A. On Overrating Oneself ...and Knowing It. *Philosophical Studies*, 2005; 123: 115–124. doi:10.1007/s11098-004-5222-1.
9. Radoilska LV. Aiming at the truth and aiming at success. *Philosophical Explorations*. 2017; 20: sup1, 111-126: <http://dx.doi.org/10.1080/13869795.2017.1287297>
- 10 Radoilska, L. *Addiction and Weakness of Will*. Oxford: Oxford University Press; 2013
- 11 Beck AW, Sedrakyan A, Mao J, Venermo M, Faizer R, Debus S, Behrendt CA, Scali S, Altreuther M, Schermerhorn M, Beiles B, Szeberin Z, Eldrup N, Danielsson G, Thomson I, Wigger P, Bjorck M, Cronenwett JL and Mani K. Variations in Abdominal Aortic Aneurysm Care: A Report From the International Consortium of Vascular Registries. *Circulation*. 2016;134:1948-1958.
- 12 Karthikesalingam A, Vidal-Diez A, Holt PJ, Loftus IM, Schermerhorn ML, Soden PA, Landon BE and Thompson MM. Thresholds for Abdominal Aortic Aneurysm Repair in England and the United States. <http://dxdoi.org/101056/NEJMoa1600931>. 2016.
- 13 Lee R, Jones A, Woodgate F, Bellamkonda K, Killough N, Fulford-Smith L, Hurst K, Cassimjee I and Handa A. The Experience of Patients During the Clinical Management Pathway of Abdominal Aortic Aneurysms at a NHS Trust. *J Patient Exp*. 2017;4:202-209.

14. Lee R, Jones A, Cassimjee I and Handa A. Patients' opinions regarding research and management of abdominal aortic aneurysms. *Int Angiol.* 2017.
15. Lee R, Jones A, Cassimjee I and Handa A. International opinion on priorities in research for small abdominal aortic aneurysms and the potential path for research to impact clinical management. *Int J Cardiol.* 2017;245:253-255.
16. Lee R, Jones A, Cassimjee I and Handa A. Engaging patients for their opinions regarding research of abdominal aortic aneurysms. *Int J Cardiol.* 2018;257:298.