Surgical sutures

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Introduction

Leaper *et al* [1] presented a model that compared antimicrobial surgical sutures (absorbable sutures impregnated with triclosan, TCS) with standard care, absorbable sutures with no antimicrobial impregnation (NCS). The model was evaluated in three scenarios:

- clean wounds;
- clean-contaminated wounds;
- contaminated and dirty wounds

Scenario 1: clean wounds

Model structure

The decision tree defined by Leaper *et al* [1] is shown in figure 1.

Model variables

The model had six input variables: the probability of an SSI with NCS, the risk ratio of an SSI with TCS compared with NCS, cost of TCS, cost of NCS, number of sutures per surgical procedure and cost of an admission with diagnosis of infection (Table 1).

Table 1: Model inputs

Description	Units	Distribution	Mean	Q2.5	Q97.5
P(SSI|NCS)	P	Be(653,6465)	0.09174	0.08514	0.09855
RR(SSI|TCS)	RR	LN1(-0.407,0.118)	0.67	0.5284	0.8379
VICRYL plus, pack	GBP	Ga(100,0.036)	3.63	2.954	4.375
Sutures per procedure	n	Ga(200,0.01)	2	1.732	2.287
VICRYL, pack	GBP	Ga(100,0.029)	2.88	2.343	3.471

Results

Run	Suture	Probability	Cost	Benefit	Utility
1	Antimicrobial	1	191.7	0	1
1	Non-antimicrobial	1	281	0	1

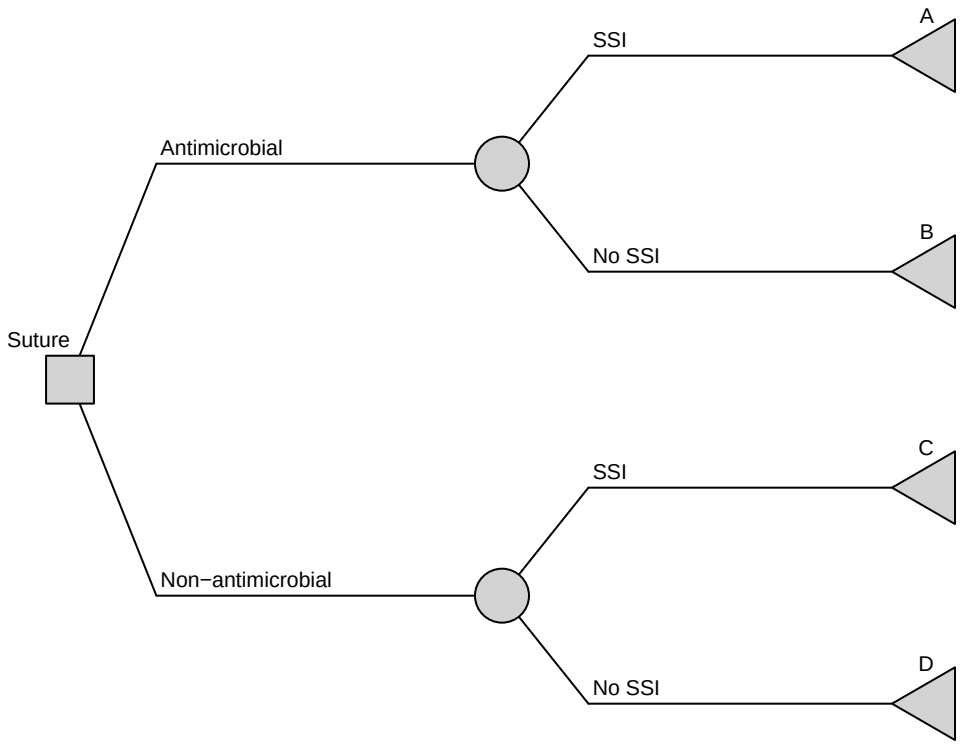

Figure 1: Decision tree for all scenarios.

References

1 Leaper DJ, Edmiston Jr CE, Holy CE. Meta-analysis of the potential economic impact following introduction of absorbable antimicrobial sutures. *BJS (British Journal of Surgery)* 2017;**104**:e134–44. doi:10.1002/bjs.10443