Manual for Risk Prediction in Vascular Surgery

Adam Johnson

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Chapter 1

About

This book is intended as an explanatory text to support the risk tool available at www.vascalc.org.

1.1 Usage

Each chapter here reflects a page of the risk tool that should outline a certain clinical scenario that requires a decision to be made. Each chapter will be broken down into sections that will outline the decision making and available evidence used to provide each presented risk prediction.

1.2 Methods

The initial algorithms included in this project were found through a literature search of available medical databases, bibliography reviews and referrals from content experts. Published algorithms were reviewed and included if they met the following inclusion criteria.

1. Input variables available in the pre-operative setting.
2. Outcome variable relevant to decision making.
3. Full regression model with beta coefficients and intercept publically available in publication or through contact with publication authors.

Available risk models were then reviewed and included based on their quality. Quality of risk model was determined through.

1. Accuracy assessments, such as AUC, sensitivity or specificity assessments.
2. Parsimonious input variable selection and clear description of variable manipulation.
3. Homogenous patient population that aligns with the clinical question.
4. Transparent stakeholder engagement and algorithm development.

1.3 Feedback

For suggestions, comments or questions please submit an issue on our github page or send us an email.

Chapter 2

Abdominal Aortic Anuerysms (AAA)

The aim of this risk calculator is to assist in the management of patients with asymptomatic infrarenal aortica aneurysms found through screening or incidentally.

2.1 Input variables

2.1.1 Age

This describes the expected age of the patient at the time of the procedure. This is likely the same age as the patient at the time of the evaluation.

2.1.2 Sex

2.1.3 Race

2.2 30d Procedural Mortality

2.3 Post Operative Myocardial Infarcation

Chapter 3

Cross-references

Cross-references make it easier for your readers to find and link to elements in your book.

3.1 Chapters and sub-chapters

There are two steps to cross-reference any heading:

1. Label the heading: `# Hello world {#nice-label}`.
    - Leave the label off if you like the automated heading generated based on your heading title: for example, `# Hello world` = `# Hello world {#hello-world}`.
    - To label an un-numbered heading, use: `# Hello world {-#nice-label}` or `{# Hello world .unnumbered}`.
2. Next, reference the labeled heading anywhere in the text using `\@ref(nice-label)`; for example, please see Chapter 3.
    - If you prefer text as the link instead of a numbered reference use: any text you want can go here.

3.2 Captioned figures and tables

Figures and tables *with captions* can also be cross-referenced from elsewhere in your book using `\@ref(fig:chunk-label)` and `\@ref(tab:chunk-label)`, respectively.

See Figure 3.1.

```
par(mar = c(4, 4, .1, .1))
plot(pressure, type = 'b', pch = 19)
```

Don't miss Table 3.1.

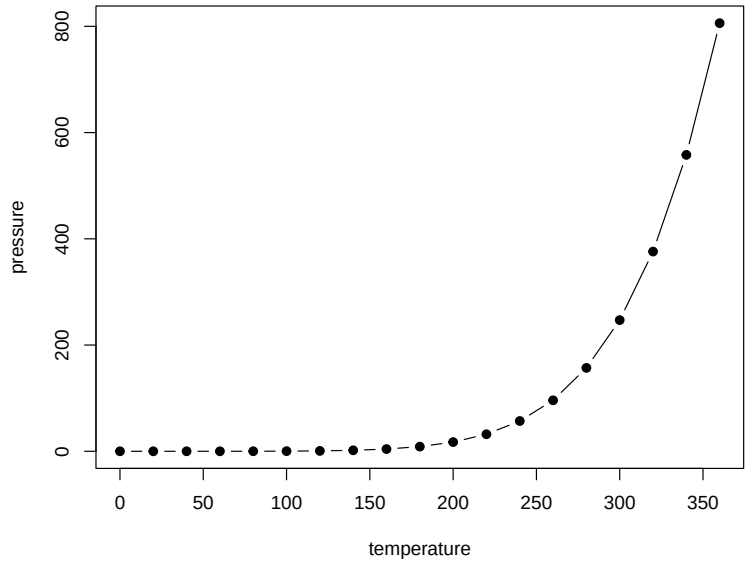

Figure 3.1: Here is a nice figure!

```
knitr::kable(
  head(pressure, 10), caption = 'Here is a nice table!',
  booktabs = TRUE
)
```

Table 3.1: Here is a nice table!

temperature	pressure
0	0.0002
20	0.0012
40	0.0060
60	0.0300
80	0.0900
100	0.2700
120	0.7500
140	1.8500
160	4.2000
180	8.8000

Chapter 4

Carotid

The aim of this risk calculator is to assist in the management of patients presenting with carotid artery stenosis and determining the best management strategy.

4.1 Input Variables

4.2 5 year stroke risk

4.3 Post operative Myocardial Infarction