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| **Criteria** | **Points (0-10)** |
| **Content** | 9 |
| **Subject Knowledge** | 7 |
|  | **16/20** |

**General Feedback**

**Content**

* Script “final\_code.Rmd” is great, very well written and nicely commented (though use relative path names!)
* I’m a little confused about the other scripts regarding the spline. Are these old code which was not used in the analysis? Also which one is the “final” spline fit if one exists? It doesn’t seem like any splines were used per the Word doc, but as a repo it is a little confusing. Maybe stick these into a folder called “old\_code” or something like that.
* Some small formatting things with your Word doc. Plots are in an odd place (all stacked up in the middle of the document). I would place them at the end as it makes the document harder to read. Also some additional formatting for some of the tables and plots should be done, specifically removing the “\_” from all names and capitalizing in a standard way. Also the GGally plot is hard to read as the numbers for the correlations are crunched, need to make the figure bigger.

**Subject Knowledge**

* Great background section, motivates the need for prediction in the field. Would like citations of the accuracies of the cited algos in the literature
* Good detail on sample and outcome measure, but would like more detail on demographic characteristics of sample which is needed for generalizability.
* Great detail on predictors
* Great detail on RF and SVM training, tuning, and testing. I think the radial basis has an additional parameter (alpha) you can tune.
* Given the low prevalence of Hernia and the corresponding poor performance for this group relative to the others, the use of weighting or SMOTE to deal with this imbalance would have been useful to investigate.
* Nice visuals of the CV results with the boxplots! The variable importance plot is really cool and your interpretation of Gini’s index is good.
* It would be very interesting to re-do the analysis without the “degree of spond…” predictor as a sensitivity analysis to see how things change, as it seems that you can almost perfectly predict spond… using it from your results.
* Would like some mention of generalizability and to what populations your results pertain to
* Would like to see the collinearity addressed in some way
* Good use of multi-class ROC, though would like to see probability thresholds discussed (i.e. varying them from the usual 0.5/highest probability in this case)