Exercise Social Anxiety Disorder.

Data are from two arms (A = placebo, B = new drug) in a study of Social Anxiety Disorder. Measurements are recorded as LSAS score, at baseline (week 0), and at week 1, 2, 4, 6, 8, 10, 12. The primary endpoint is change from baseline to week 12.

1. Make a table of N and mean for each week and each treatment, and a plot of the calculated means.
2. Make a table of number of patients in week 0 and week 12 for each site and treatment. Discuss how you will model the effect of site.
3. The data set contains two binary indicators, wloe = 1 for withdrawal due to lack of efficiency, and wae = 1 for withdrawal due to adverse event. Make a table of N and mean for each week, treatment and combination of wloe and wae. Make a mean plot for the four groups (wloe x wae). Discuss the plots.
4. The baseline measurement is included as measurement at week 0, but also as a separate variable lsas_bl. Run a model with effects of week, treat(week), lsas_bl(week),site(week) and with an unstructured covariance matrix for patient (pat) (exclude data from week 0)
5. Use LSMEANS statement to take out lsmeans of treat(week). Add another lsmeans statement with the option obsmargins. Add the option ”e” to both lsmeans statements and discuss the reason for the different results. Which set of lsmeans would you prefer? why?
6. Write lsmestimate statements to estimate lsmeans at week 12 and the treatment difference at week 12. Add an lsmestimate statement with the obsmargins option.
7. Change the covariance structure to type = ante(1) with options R Rcorr and RI. To get around convergence problems do the following. Restrict the analysis to patients without stated withdrawal reasons (wloe = 0 & wae = 0), save the estimated variance-covariance parameters by ”ods output CovParms = ANTEcp;”. Then run the model on all data using the estimated parameters as starting values with the statement parms /pdata= ANTEcp;
8. Compare the estimated covariance matrix to the estimated unstructured covariance matrix. Make a formal test of the model reduction. What is the interpretation of the ante(1) structure? Was the estimated treatment effect changed, when the covariance structure was changed?
9. For large, complicated models proc hpmixed may be an alternative to proc mixed (not all options from proc mixed are available in proc hpmixed). Try to use proc hpmixed to run a model where the fixed effect site(week) is replaced by a fixed effect of site and a random effect site(week).