

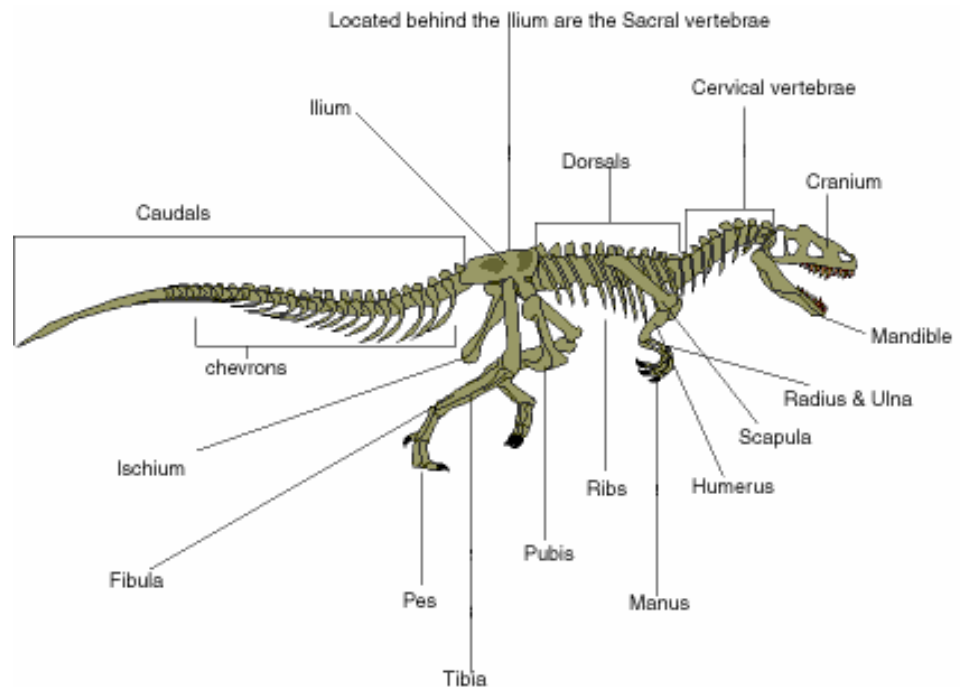
The objective of this assignment is to apply some of the post-ANOVA applications covered this week. On assignment 2, the *Tyrannosaurus Rex* analysis, the bones listed as Bone1 through BONE12 are the following:

Indication	Name	Location
Bone1	Rib 16	Rib
Bone2	Gastralia	Abdominal rib-like structure
Bone3	Gastralia	Abdominal rib-like structure
Bone4	Dorsal Vartebra	Backbone
Bone5	Dorsal Vartebra	Backbone
Bone6	Femur	Leg (upper)
Bone7	Tibia	Leg (lower)
Bone8	Metatarsal	Foot
Bone9	Phalange	Foot ("fingers")
Bone10	Proximal Caudal	Tail (closest to the body)
Bone11	Mid-caudal	Tail
Bone12	Distal caudal	Tail (farthest from the body)

- 1) First, modify the proc mixed to test for homogeneous variance. Keep this in the program and make a second copy of PROC MIXED to do the analysis below. On this second PROC MIXED only fit separate variances if the previous test indicated this was a better model.
- 2) Write the following contrasts for these bone groups.

- a) Ribs and Gastralia versus caudal bones
- b) All leg bones versus all foot bones
- c) All leg and foot versus backbones
- d) All ribs, gastralia and backbones versus all tail bones

In writing these contrasts, be careful of the order in which the bones are listed. By default the order is alphanumeric. If you request "order = data" on the model statement the order will be the same as the data so long as you have not sorted the data.



- 2) Also do LSMeans in PROC MIXED requesting both TUKEY and SCHEFFE adjustments. Include SAXTON's macro to sort the means and indicate differences. You will need to download a copy of Saxton's macro from my home page and store it in C:\temp.