Procedure

1). Make a folder named "BCreference" on disk D as the path "D:\BCreference".

2). Create your type sas7bdat file named "Udata" in the folder.

3). Copy the following codes to sas.

4). A new Excel file named "Diag\_Udata" including the BMD percents will be created.

5). BMD\_Percent are your results.

Note: Udata means your data

SAS Codes:

/\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*SAS program on how to diagnose the TBLH BMD percent in 3-18 years children and adolescents.

Program written by Junting Liu& Guimin Huang.

Last modified on 15:16 8/3/2016; SAS version 9.4;

Import YOUR DATA, including key variable(ID),and unify your variables' name(eg.ID, sex, age, BMD).

Notes: ID[Identification],sex[1=boys,2=girls],age[years],BMD[Total Body Less Head Bone Mineral Density,g/cm2]

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*/

libname BC "D:\BCreference";

data \_Udata;

set \_Udata1;

age1=int(age\*2)/2;

RUN;

proc sort data=\_Udata;

by sex age1;

run;

DATA BCref;

Input age1 sex L\_BMD M\_BMD S\_BMD;

cards;

3.5 1 -0.251 0.399 0.073

4.0 1 -0.251 0.421 0.074

4.5 1 -0.251 0.443 0.075

5.0 1 -0.251 0.463 0.076

5.5 1 -0.251 0.482 0.077

6.0 1 -0.251 0.505 0.078

6.5 1 -0.251 0.531 0.079

7.0 1 -0.251 0.557 0.080

7.5 1 -0.251 0.579 0.081

8.0 1 -0.251 0.596 0.082

8.5 1 -0.251 0.612 0.083

9.0 1 -0.251 0.627 0.084

9.5 1 -0.251 0.641 0.085

10.0 1 -0.251 0.656 0.085

10.5 1 -0.251 0.671 0.086

11.0 1 -0.251 0.687 0.087

11.5 1 -0.251 0.705 0.088

12.0 1 -0.251 0.725 0.089

12.5 1 -0.251 0.747 0.090

13.0 1 -0.251 0.771 0.091

13.5 1 -0.251 0.795 0.092

14.0 1 -0.251 0.818 0.093

14.5 1 -0.251 0.840 0.094

15.0 1 -0.251 0.858 0.095

15.5 1 -0.251 0.874 0.096

16.0 1 -0.251 0.891 0.096

16.5 1 -0.251 0.910 0.097

17.0 1 -0.251 0.927 0.098

17.5 1 -0.251 0.941 0.099

18.0 1 -0.251 0.949 0.100

18.5 1 -0.251 0.955 0.101

3.5 2 -0.480 0.385 0.061

4.0 2 -0.417 0.406 0.064

4.5 2 -0.355 0.427 0.067

5.0 2 -0.293 0.449 0.070

5.5 2 -0.230 0.470 0.073

6.0 2 -0.166 0.491 0.076

6.5 2 -0.101 0.513 0.079

7.0 2 -0.035 0.535 0.082

7.5 2 0.030 0.555 0.084

8.0 2 0.092 0.575 0.087

8.5 2 0.151 0.594 0.089

9.0 2 0.205 0.612 0.091

9.5 2 0.253 0.632 0.093

10.0 2 0.294 0.652 0.094

10.5 2 0.330 0.673 0.095

11.0 2 0.358 0.696 0.095

11.5 2 0.378 0.720 0.094

12.0 2 0.388 0.743 0.092

12.5 2 0.388 0.763 0.090

13.0 2 0.375 0.781 0.088

13.5 2 0.351 0.796 0.086

14.0 2 0.314 0.807 0.084

14.5 2 0.266 0.816 0.082

15.0 2 0.208 0.823 0.080

15.5 2 0.143 0.829 0.079

16.0 2 0.071 0.835 0.078

16.5 2 -0.006 0.841 0.078

17.0 2 -0.087 0.845 0.077

17.5 2 -0.171 0.848 0.077

18.0 2 -0.257 0.850 0.076

18.5 2 -0.345 0.851 0.076

;

run;

Proc sort data=BCref;

by sex age1;

run;

Data Diag\_Udata;

merge BCref \_Udata;

by sex age1;

BMD\_Percent=int(CDF('normal',((BMD/M\_BMD)\*\*L\_BMD-1)/(L\_BMD\*S\_BMD))\*100);

If bmd=. Then bmd\_percent=.;

run;

proc print data=diag\_udata;

var id age1 sex bmd bmd\_percent;

run;

proc export data=Diag\_Udata outfile='D:\BCreference\Diag\_Udata.xls' replace;

run;