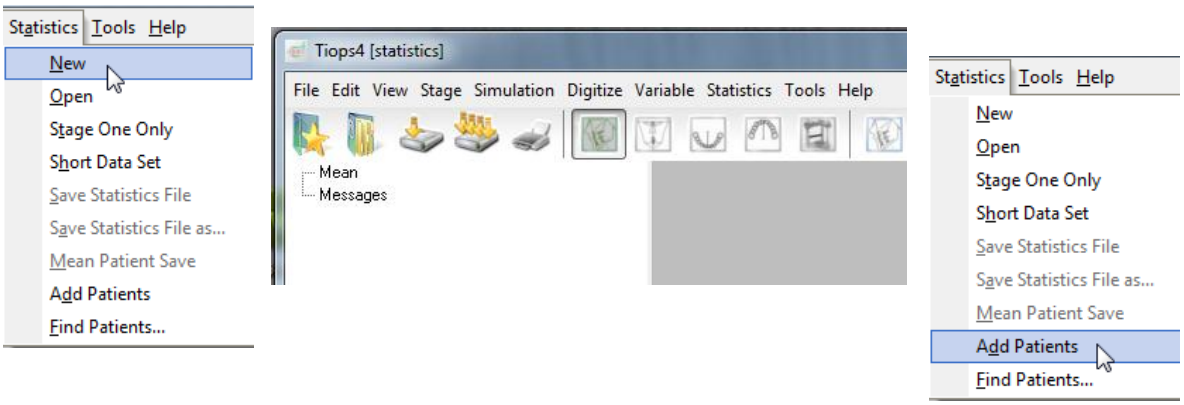
Statistics Quick Guide

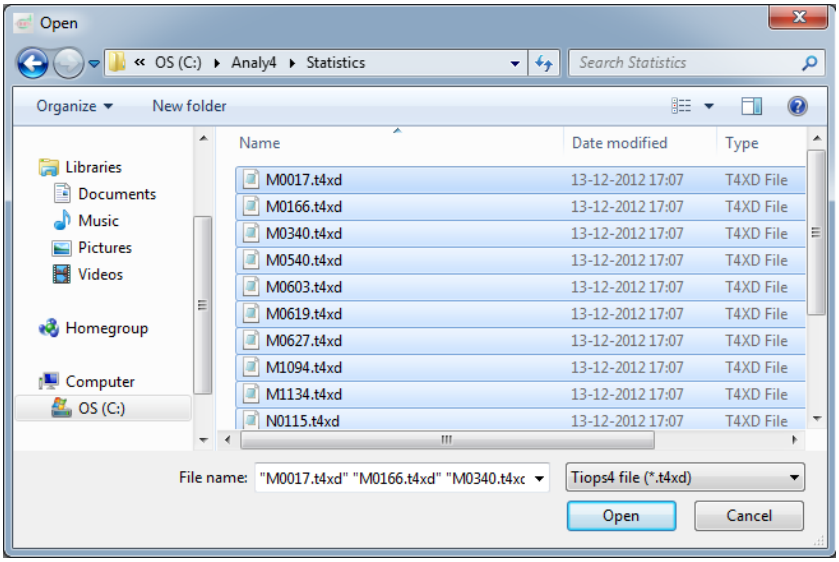
The Tiops4 program has a built-in statistics feature that can create a Mean file from a group of patients that previously have been analyzed. It also has the ability to export the data for further analysis in Microsoft Excel and other statistic programs. When it is exported it is carried over as a (.csv) file, which is the standard statistical file format.
Note: To get the desired variable set included in the data sheet select the appropriate variable file in Tools\Environment Options...\Variable\Cephalometric Analysis.
Prior to performing the statistical analysis all patient files (.t4xd) to be included in the analysis must be copied to a designated folder which can be a subfolder located in your Analy4 folder.
Note: The individual patient files all have to be analyzed initially under the same Regimen

Creating a New Statistic Session

1. To create a New Statistics Analysis Session click New in the Statistics pull down menu. The look of the Data input panel will now change. Now click Add patients.

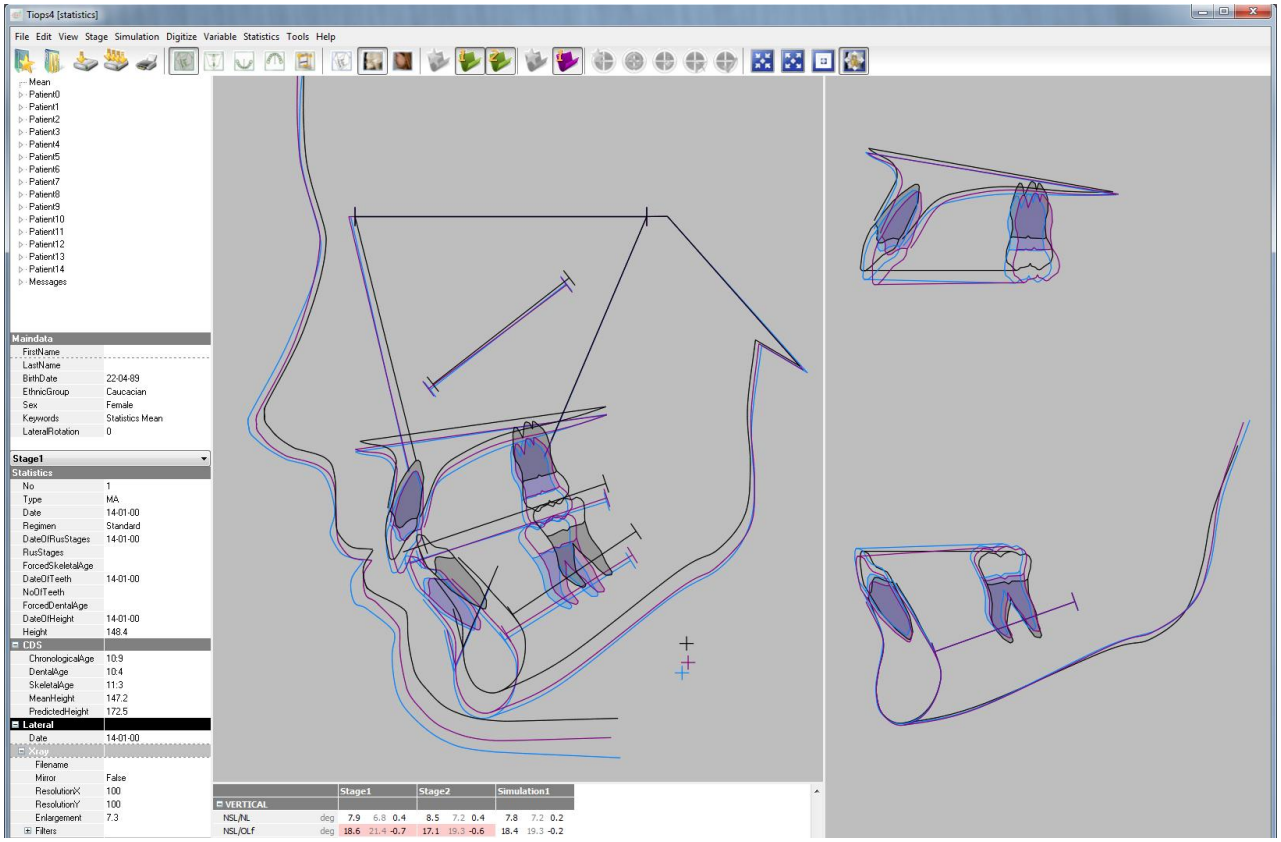


2. Browse to the appropriate location of your data files and chose the patients you want to include and click Open.



3. Now the selected patients will be loaded into the statistics module. The process, as the patients are being added, can be followed in the status line in the lower left corner of the program workspace. The wording will, after the download is completed, change to Calculating Mean...

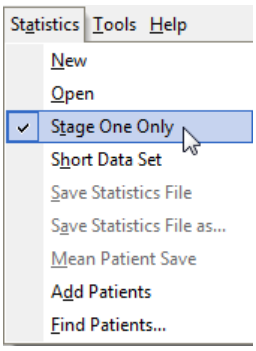
When the process is completed the status line will be blank and the result is displayed as seen below.

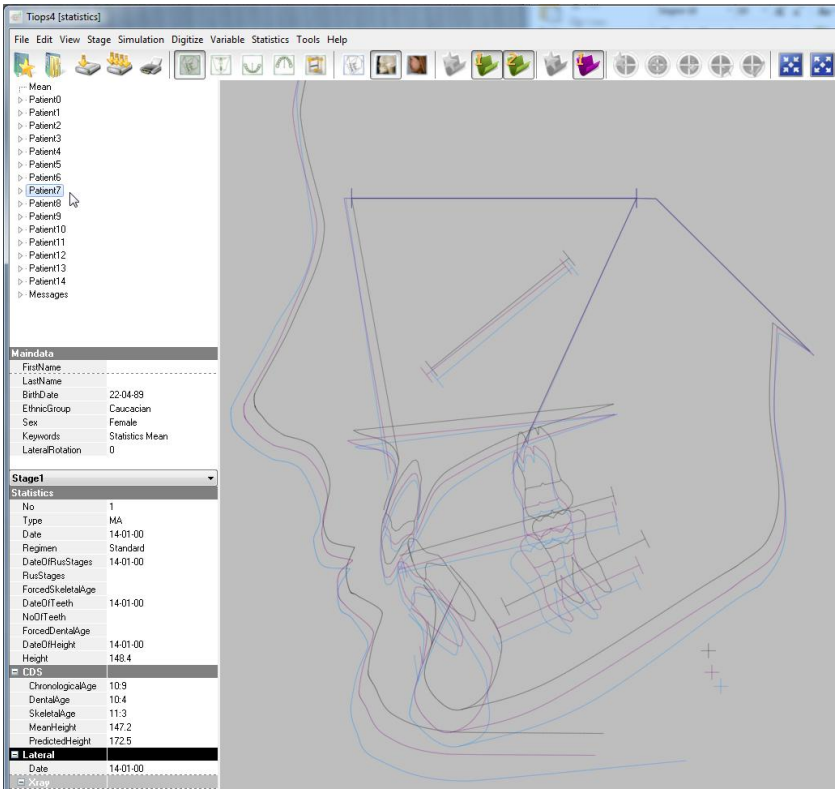


4. You will now see the Mean Patient analysis for the chosen, in this case 15 patients. The mean values for this group is now shown in the data panel. In the Dropdown menu you can save the Mean Patient file as a conventional patient file and the cephalometric printouts can be made just like for a regular patient.
   Note: The tracings of the maxillary and mandibular tooth movements, shown in the right panel, are meaningless as they are based on averaging the reference lines from the individual tracings, which may vary from patient to patient.

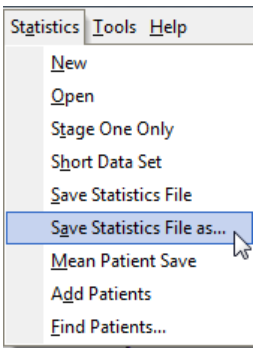
5. The individual patient's files can be seen by clicking on the respective case no.

6. Checking the function Stage One Only will include just the initial stage of the patient's files. This choice has to be made before performing the function Add Patients.





7. Selecting the option Save Statistics File (as…) stores the statistics file as an .csv file that now can be opened directly in Excel or any other statistics program and also reopened in Tiops4 using Statistics\Open. The .csv file will contain the following items:



a. A list of the patients selected

Patients	Filename
0	C:\Analy4\Statistics\M0017.t4xd
1	C:\Analy4\Statistics\M0166.t4xd
	..
	.

b. The Main data for each included stage.
Note: The column here indicated with red contains the data for the mean patient. Be careful not to include the values of this column in your statistical calculations.

Key	Data	Number	Analysis	Variable	Mean	0	1
Patient.maindata.sex	Patient			maindata.sex	Female	Female	Male
Stage.1.type	Stage	1		type	MA	MA	MA
Stage.1.chronological_age	Stage	1		chronological_age	9.42	9	9.83
Stage.1.skeletal_age	Stage	1		skeletal_age	11	12.17	9.92
Stage.1.dental_age	Stage	1		dental_age	10.42	11	18
Stage.1.heigth	Stage	1		heigth	146.4	142.8	150

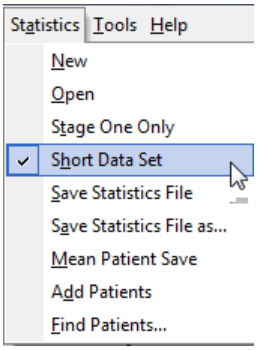
c. The x and y coordinates of all cephalometric landmarks for all stages and simulations.

Stage.1.Lateral.ar.x	Stage	1	Lateral	ar.x	2170	2310	2030
Stage.1.Lateral.ar.y	Stage	1	Lateral	ar.y	-2670	-2760	-2580
Stage.1.Lateral.rls.x	Stage	1	Lateral	rls.x	1885	2170	1600
Stage.1.Lateral.rls.y	Stage	1	Lateral	rls.y	-4100	-3950	-4250
..							
.							

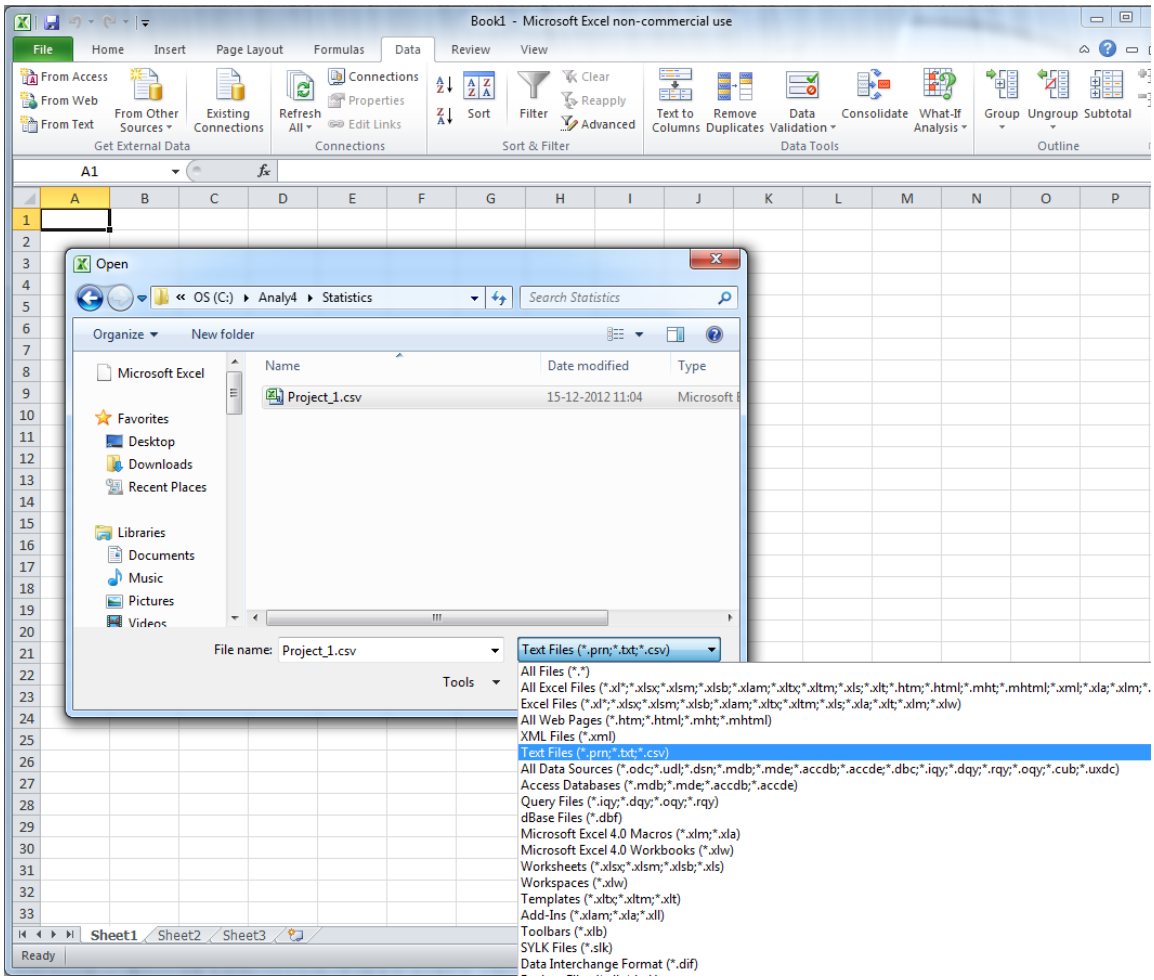
d. The values and the deviations measured in individual standard deviations for each variable for all stages and simulations.

Stage.1.Lateral.s-n-ss.value	Stage	1	Lateral	s-n-ss.value	79.9404	77.28367	82.48431
Stage.1.Lateral.s-n-ss.dev	Stage	1	Lateral	s-n-ss.dev	-0.44561	-1.20466	0.28123
..							
.							

e. Checking the item Short Data Set before saving the statistics file will omit the data listed under b. and also the Deviation Values (.dev) under d.



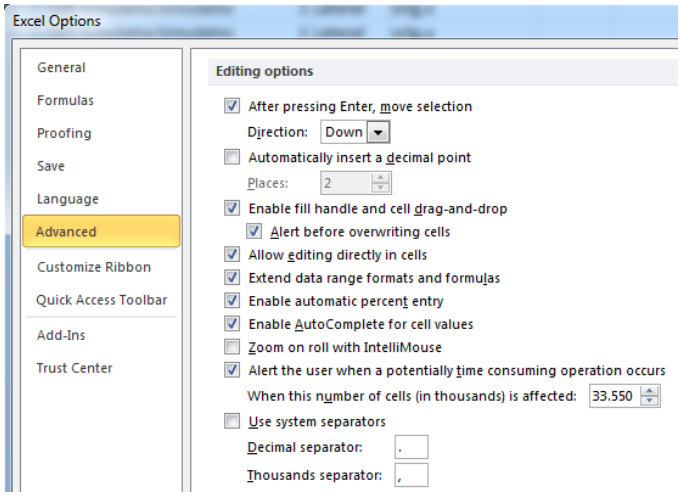
8. To locate the .csv file from the Excel Program Click on File\Open and select Text Files.



9. If you don't see the values in the Excel sheet correctly be sure that the separators in Excel\Options\Advanced are set to:

   Decimal separator as a dot
   Thousands separator as a comma

   These settings are equal to the Standard US system defaults.



10. The function Find Patient provides a means to extract particular patient files from a group. You can enter the specific search parameters as shown under Find patients. This function can be modified further if needed with additional search parameters by contacting us from www.tiops.com