

Tiops2005 UPDATE NOTES

The update notes are part of the Tiops2005 user Guide. From time to time the notes will be incorporated in the guide.

Version 2.13.1 – 28.02.2008

1. This new version of TIOPS is a β -version with a new frontal analysis.

Version 2.15.0 – 20.03.2008

1. Version 2.15.0 is a major update of the program including the new **Frontal Analysis**.
2. The **Frontal Analysis** has now been completed. The landmark sequence can be seen in the file **TiopsLandmarks.xls**, which can be downloaded from the www.tiops.com/Documentation tab
3. A new (**LatFron**) regimen (Sequence of points to be digitized) is being introduced with this new version of TIOPS. The landmarks included are shown in the file TiopsLandmarks.xls. which lists the landmarks included in all four regimens:
 - Standard** regimen – the basic regimen
 - Blueprint** regimen – including the cervical vertebrae – the regimen for the Post Graduate Orthodontic Program in Copenhagen
 - LatFron** regimen – including the possibility of both right and left landmarks for the posterior part of the mandible and the upper and lower molars and functional occlusal plane.
 - Complete** regimen – all the landmarks from the list. This regimen is the basis for creating individualized regimens. Individualized regimens can be ordered by TIOPS by clinicians with special wishes.
4. The digitizing sequence has been **changed** in all the above listed regimens as seen in the file TiopsLandmarks.xls, where all landmarks appear in the right sequence. The landmarks included in the different regimens are marked accordingly. The sequence has been changed to make it possible to show **guiding lines** to those landmarks, which are defined by **tangents**. A blue guiding line will appear aiding in locating the landmarks. This guiding line will appear only when registering digital pictures.

The sequence after the **ba** point is:

scap – sctg – scip – fcip(Blueprint, LatFron) – na(All) – v LatFron) – cd – ar

The most important change is: After registering the **m1a** point then continue with:

sm – spg – pg – pgn – gn – sym – ma1 – ma2

5. A new Variable on the lateral analysis has been introduced: The angle **NSL/HOR** where HOR line refers to the true horizontal plane when the patient orientation on the headfilm is registered in natural balanced head position. If the negative value of the variable is entered in the Maindata field labeled **LateralRotation**, the tracing and the headfilm will be aligned accordingly
6. A new tracing – **Full Head Tracing** of the lateral headfilm is introduced as a help in the Frontal analysis. The lateral landmark **v(Vertex)** should be registered. This can be done only in the **LatFron** Regimen. When:
 - The Maindata field **LateralRotation** is set correctly
 - The **LatFron** regimen is chosen
 - The submenu **View/Show guidelines** is activated, thenthe tracing is supplemented with a grid aiding in evaluating the correct vertical position of the **Frontal** landmarks. This will only work when the lateral and the frontal headfilms are registered in the same horizontal plane orientation.
7. The **Dental Arch Analysis** has been improved and now includes a **Perimeter Arch** that passes through the contact points (See definitions in **TiopsLandmarks.xls**) of the teeth on the arch tracings. The **arch Length Discrepancy** is calculated based on the use of this perimeter arch. The definition of the points defining this arch can be seen in the file **TiopsLandmarks.xls**.
8. The **Maxillary** and the **Mandibular Jaw views** – seen in the right window – have been improved. Now the first upper and lower jaw tracing in a series are oriented with their respective occlusal planes, as defined by **isi – csm** for the upper jaw and **iii – cim** for the lower jaw, horizontally. This change will position the occlusograms more correctly and facilitate the arch analyses.
 - The (average) molars from the lateral analysis – and eventually the right and the left molars registered using the new LatFron regimen – are seen as shadow teeth (**Arch Teeth Mirrors**) on the occlusograms in all views.
 - To compare their positions guidelines may be drawn by activating the submenu **View/Show guidelines**.
9. Several different cursor options and designs are available for the digitization of digital headfilms/pictures: These can be selected from the submenu **View/Digitizer cursor 1, 2 ...** This facilitates the digitization of pictures with varying contrast and brightness.
10. By disabling the submenu **View/Show fill** it is possible to remove the fill effect of the teeth on the screen (and on the tracings). This may facilitate the use of the template during digitization of the teeth. The fill effect can be activated again by enabling the submenu.
11. The active analysis (Lateral/Frontal/UpperArch/LowerArch/Articulator) – selected by the view buttons - of the stage/simulation is shown with a darker blue banner in the dialog part of the screen).

12. The individual landmark locations can be illustrated by activating the submenu **View/Show point IDs**. The landmark identification will then be visible on the tracing.
13. The labelling of the menus in the **Simulation Mode** has been changed in order to make it more easily understood:
- Frame 1 → GeneralData
 - Frame 2 → Orthopaedics
 - Frame 2c → Surgery
 - Frame 3 → ArchChange
 - LoIncSagAdjust → ArchesSagAdjust
 - LoArchExpan → ArchesExpansion
 - Frame 4 → TeethAdjustment
14. The Landmark and reference line **correction procedures** have been systematized. The possible corrections are in the file **TiopsLandmarkCorrection.xls**, which can be downloaded from www.tiops.com/ Documentation tab.
15. The digitizing procedure of digital pictures (headfilms and oclusograms) has been improved:
- It is now possible to alter the following parameters **before, during and after** the registration of the landmarks:
- Enlargement**
 - Zoom**
 - Filters**
- The **Mirror** option, however, should be set before the digitizing procedure . The **Resolution, Translation and Rotation** parameters are system variables and should **not** be altered.
- When two consecutive lateral headfilms are superimposed, the **LateralRotation** parameter is automatically set back and locked at zero during the digitizing procedure to ensure a correct superimposition registration. It is restored after finishing the landmark sequence.
16. The **File/Import** and the **File/Export** functions have been further developed. It is now possible to create (File/Export) a Tiops2005 archive file (**.txa file**), where all digital picture files, that are stored in the Analy2005/X-rayt/Photo/Model directories for a single patient analysis file (.txd file) are attached to this .txa file. This file can then be saved to a portable medium (a USB stick) and may thereafter be carried to another computer with its own Analy2005 structure. There the file can be opened with the File/Import function and further cultivated. New pictures may be included and the Patient file can be re-exported to the original computer with the same functions.

Version 2.15.4 – 13.04.2008

1. Version 2.15.4 is a minor update of the program including some error corrections.
2. The articulator function has been corrected. The PinHeigth have underwent a service check up.

3. The internal structure of the program has been updated. For Your convenience:
This update can open all files created with earlier versions. Patient file created with this version should not be opened with earlier versions of the program.
4. The Extractions Simulation Dialog has been changed. It is now possible and necessary to address any tooth separately. Teeth to be extracted should be labelled **missing**, A tooth labelled **Nonerupted** will force the simulation to create sufficient space for it in the arch. Standard mesio-distal diameters for the teeth will be applied when no corresponding arch analysis is present. Earlier simulations will keep their original format.

Version 2.15.5 – 16.04.2008

1. Version 2.15.5 is a minor update of the program including some error corrections.
2. It is now possible to include landmarks and groups of landmarks (Structures) when not originally included (Skipped) in the landmark digitization. You may also change the **Regimen** in order to be able to include landmarks from this new regimen. Selecting the submenu **Digitize/Structures** provides You with a list of the selected or skipped structures of the regimen chosen. Checking an empty box will create the corresponding landmarks with average coordinates. The landmarks must then be corrected with the appropriate correction procedure. Un checking a box will delete the corresponding landmarks.

Version 2.16.1 – 07.06.2008

1. Version 2.16.1 is a major update of the program including a profound renewal of the surgical simulations and some error corrections.
2. A problem with the IdMask (the File Identifier) has been solved. If you have files with **different Identifier types**, the system will recognize the format of the Identifier and display it in the correct format by opening the file, regardless which format you may have selected in the system setup. The Identifier format may also be changed for an old file by changing the **IdMask Type** in Tools/Environment options/Main/IdMask and re-entering the correct Identifier.
3. In the View menu it is now possible to select or hide the following features on the tracings:
 - The guidelines** (Lines connecting the central incisors and the first molars on the Jaw Views and the occlusograms)
 - The Arch Teeth Mirrors** (Lateral teeth on the occlusograms)
 - The tooth fill**
 - The Arch Perimeter Curves**
 - The Point IDs** (The landmark names)
4. The simulation of occlusograms will provide prediction of the teeth sizes for all missing teeth.

5. A problem with the File Export function has been solved (.txa files)
6. A problem with the superimposition of digital XRays with different Enlargement on the screen has been solved.
7. An error with the change parameter information on the tracings with non-consecutive stages has been solved.
8. The combined SAM-articulator(II and III)/Surgical planning simulation has been optimized. For a protocol see the document on www.tiops.com/ Documentation tab.

Version 2.16.2 – 09.06.2008

1. Version 2.16.2 is a minor update of the program including some error corrections.
2. The Articulator PinHeight is displayed correctly on the Articulator Tracing.
3. The PinHeight is calculated correctly when importing a Tiops2000 file.

Version 2.16.3 – 19.06.2008

1. Version 2.16.3 is a minor update of the program including some error corrections.
2. A problem with the growth- and surgical analyses has been solved.

Version 2.16.4 – 22.06.2008

1. Version 2.16.4 is a minor update of the program including some error corrections.
3. A problem with the analog frontal analysis has been solved.

Version 2.16.5 – 31.08.2008

1. Version 2.16.4 is a medium update of the program including some new items.
2. It is now possible to use headfilm.bmp (Bitmap Image Files). You must set the resolution yourself because the .bmp files don't contain this information. The resolution is calculated by the following equation:
Number of pixels in the vertical dimension divided by the vertical dimension in inches.
3. A new regimen (Airway) is incorporated including 9 new landmarks defining the volume of the airway. The regimen is build upon the Blueprint Regimen.
4. A new Cephalometric Analysis Variable Calculation File (AirwayMes) is incorporated. To calculate these new distances then select:

Tools/Environment options/Variable/CephalometricAnalysis/AirwayMes.

Version 2.17.6 – 07.12.2008

1. Version 2.17.6 is a major update of the program that includes some new items and some general background changes.
2. A Problem with no growth showing in the simulation if no Skeletal Age has been entered has been corrected.
3. The User Guide has been corrected and updated. Further improvement will follow that will include the earlier update notes in the guide.
4. The function Tools/Manager have been updated for more consistent function.
5. Some improvements/additions has been made in the Structured Variables design. These changes can also be seen on the Single Tracing.
6. Some variables had a name change for clarity:

UpIncCover	New name: UpIncExposure
Up/Lo AlvProgn	New name: Up/Lo AlvProtr
7. The calculation of the arch transversal and sagittal seize differences of the dental arches has been corrected.
8. A prediction of the space conditions in the dental arches in connection with not erupted/missing teeth has been included.
9. A new set of experimental tracings has been included in the print dialog box. They will be further developed. The Upper/Lower Arch Tracing is now completed. It can be used only if one stage is selected.
10. The Tiops2005 program can be opened with a "command line" and thus be started from another program. For further information please contact tiops@webspeed.dk
11. A new check system has been introduced under the View menu: Symmetry guides for the Arch analysis.
12. A new regimen called Snake, build upon the LatFron Regimen, has been introduced as an aid in the superimpositioning procedure. By selecting the Snake regimen and using the Digitize/Structures command up to six lines, each defined by 5 landmarks, can be digitized to mark anatomical structures. To use this option: Mark the check boxes corresponding to the number of Snakes you wish to see and use the landmark correcting function to place the lines.
13. The Guiding Lines for the reference line landmarks around the anterior cranial base in the digitizing procedure has been improved.
14. A new superimpositioning procedure for the anterior segment of the maxilla, in case of maxillary anterior split of the surgical analysis, has been introduced.

15. It is now possible to display the main tracing on the screen without the X-ray. Use the icons left to the green Stages Icon to toggle the display of the picture. This functions if stages are focused (Selected as active). Selecting a simulation to be in focus will disable this function.
16. The arch simulation now shows predicted lateral incisors even when the lateral incisors are recorded as missing.

Version 2.17.8 – 25.01.2009

1. Version 2.17.8 is a minor update of the program including some error corrections.
2. A problem with incomplete Arch Analyses has been corrected.
3. The lip simulation has been improved.

Version 2.18.4 – 10.09.2009

1. Version 2.18.4 is a minor update of the program including some error corrections.
2. A problem with Adult Skeletal Age in the Simulation Procedure has been corrected.

Version 2.20.0 – 15.12.2010

1. Version 2.20.0 is a minor update of the program including some error corrections.
2. The Simulation Procedure of the maxilla has been improved.

A text size problem in the print procedure Lateral – MoreStages – NoArches has been fixed

Version 2.20.1 – 22.06.2011

1. Version 2.20.1 is a minor update of the program including some error corrections.
2. The User Guide has been updated

