



*Sport and physical preparation software.
Prevent Overtraining, Health preservation...*

FITeval User'guide

2023



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● INTRODUCTION

Welcome to FITeval

Thank you for choosing FITeval. Please take a little time to familiarize yourself with this manual, as it will help you to discover the software and guide you into the functions of the program, from the general to the more specific. If you enjoy using FITeval, please tell your friends about us! We would also love to hear your suggestions concerning features that you would like us to add and/or improve. We will consider them for future releases.

This guide assumes that:

- You have read your computer's owner's manual and are familiar with your machine and using a mouse.
- You are familiar with Windows terms such as button, click, double-click, drag, select, choose, menu, window, insertion point, folder, dialog box and clipboard.

 ***If you are not familiar with Microsoft Windows, we recommend that you read your Windows manual before installing and using FITeval.***

Acknowledgments

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CHAPTER 1 • ABOUT FITEVAL

Presentation of FITEval

FITEval is designed to facilitate, automate and systematize fitness assessment, training planning, monitoring of training adaptation, and prevention of the overtraining syndrome in an extremely personalized manner.

FITEval will help you to:

- Assess physical fitness by taking into account the sport and the level of each subject evaluated.
- Compare individual levels to specific norms, by norms defined by you, to results obtained by a team or to results obtained by the individual during previous evaluations.
- Plan and manage training plans.
- Prevent overtraining, reduce the risk of injuries and improve motivation.
- Generate illustrated exercise programs.
- Create and print individual intensity tables for strength, aerobic and anaerobic training.
- Detect sport talent and risk factors.
- Convert the most commonly used units in exercise physiology.
- Generate and print a number of personalized and informative reports, graphs programs, tables and documents.

Warning

Even though we have taken great means to create an attractive and easy to use interface, FITEval is, foremost, a technical software. The use of the software requires minimum basic knowledge in fitness assessment and training planning.



CHAPTER 2 • INSTALLING AND STARTING FITEVAL

Before installing FITEval

Verify your computer's systems requirements

FITEval has the following minimum hardware and software requirements:

- A PC computer equipped with a Pentium™ processor or equivalent.
- Microsoft Windows 95, 98, XP, Vista or Microsoft Windows NT 3.51.
- 32 Mb of RAM.
- 30 Mb of free hard disk space.
- A Super VGA monitor (800x600).

ⓘ *If your system does not meet these requirements, the optimum functioning of FITEval is not guaranteed.*

Verify your monitor configuration

FITEval works under the Super VGA mode (800x600). In order to verify whether your screen is configured in this mode, proceed as follow:

- Quit FITEval and all other active applications.
- Click on the **Start** button located in the bottom left-hand corner of Windows. Select the **Parameters** menu and the **Control Panel** button.
- Double-click on the **Display** icon, select the **Configuration** option and verify the value displayed in the **Desktop area**. If the value is NOT **800x600**, slide the cursor to the left or to the right until the 800x600 value is displayed. Click on **Apply** to save the new configuration (your screen will be re-dimensioned).

Installing FITEval

- Insert the CD in the appropriate disk drive.
- Click on the **Start** button and choose the **Run** option.
- When the **Run** dialog box appears, type:
- **x:\fiteval2000en.exe**, where «x» represents the appropriate disk-drive letter. For example, if your CD is in drive d, type: **d:\ fiteval2000en.exe**
- Click **OK** or press **Enter** to activate the installation program. The Installation dialog box appears.
- Follow the directions on the screen to set up the program.

Starting FITEval

- Click on the **Start** button.
- Select the **Programs** menu.
- Select the **FITEval** menu.
- Select the **FITEval** option.

Removing FITEval

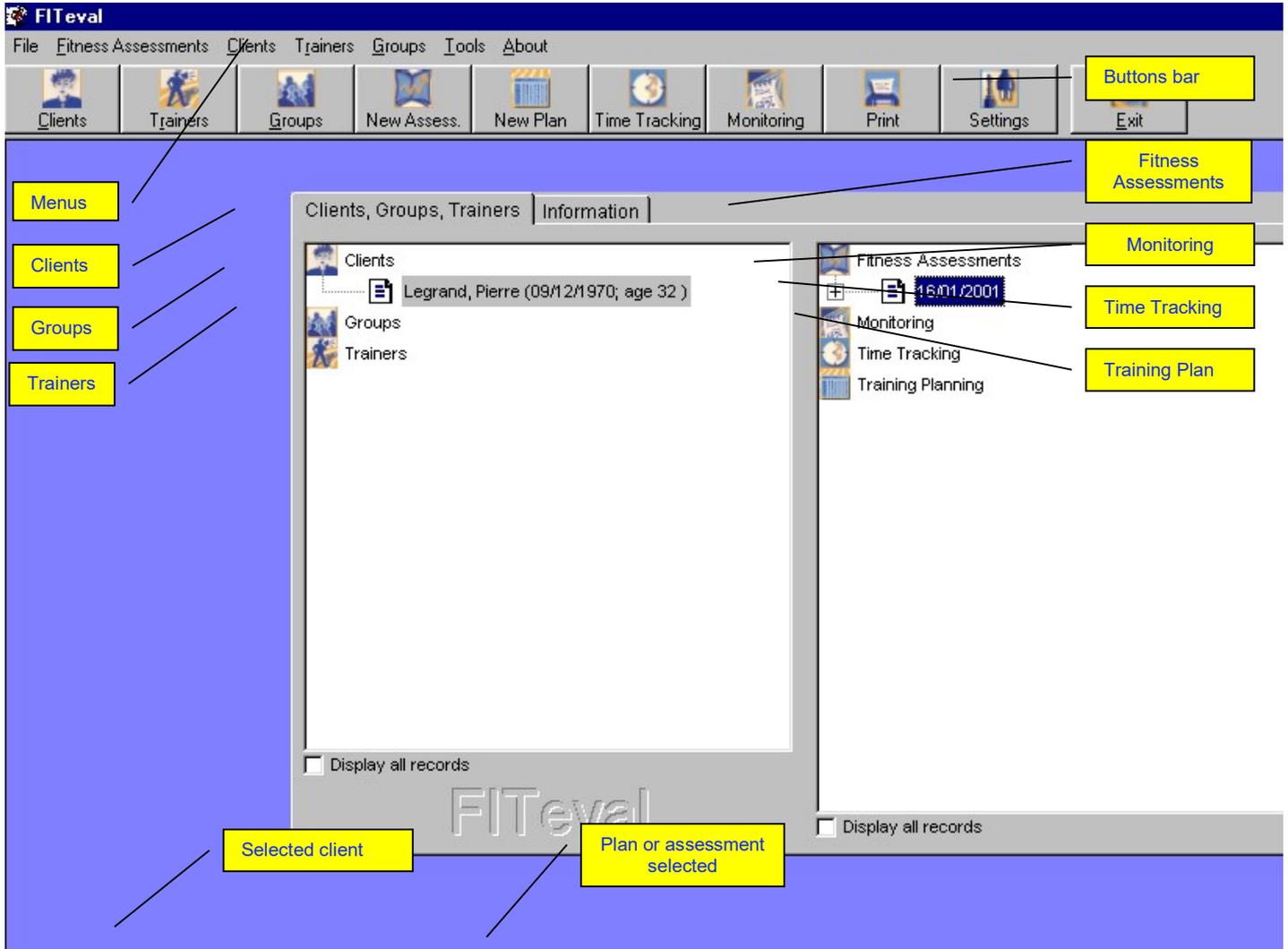
- Select the **Programs** menu.
- Select the **FITEval** menu.
- Select the **Removing FITEval** option.
- Follow the directions on the screen.



CHAPTER 3 • DISCOVERING FITEVAL

The following chapter presents the different elements of FITEval. In the present chapter, you will learn how to familiarize yourself with the main window, menus, buttons, icons and options of the software.

The main window of FITEval



The buttons bar of FITEval



Click on the following button...	To...
Clients	Insert a new client.
Trainers	Insert a new trainer.
Groups	Insert a new group of clients.
New assess	Insert a new assessment for the selected client.
New plan	Create a new training plan for the selected client.
Time tracking	Record the time dedicated to the selected client or group.
Monitoring	Record data-related fatigue and motivation of the client.
Print	Print and configure documents.
Settings	Configure the software and the test, exercise and workout-template libraries.
Exit	Exit FITEval.



Icons used by FITeval



Clients. Double-click on this icon to display the list of clients inserted in FITeval.

Groups. Double-click on this icon to display the list of groups inserted in FITeval.

Trainers. Double-click on this icon to display the list of trainers inserted in FITeval.

Assessment. After selecting a client, double-click on this icon to display the list of assessments associated to the client.

Training plans. After selecting a client, double-click on this icon to display the list of training plans related to the client.

Monitoring. After selecting a client, click on this icon with the right button of the mouse and select the Activate option to display the Monitoring module.

Time tracking. After selecting a client, click on this icon with the right button of the mouse and select the Activate option to display the Time tracking module.

Folder. Double-click on this icon to display the related records.

File. Click on this icon to select the related records.

Exit. Click on this icon to quit the application.

Navigating FITeval

You can navigate the windows of FITeval by using either the mouse or the keyboard. Use the **TAB** key to jump from one box to another or use the **Shortcut keys** as explained below.

Shortcut keys

To...	Press on...
Activate the menu bar in programs	F10
Carry out the corresponding command on the menu	ALT+ underlined letter
Close the current window or quit a program	ALT+F4 or click the (x) located in the upper right-hand corner of the window.
Copy	Ctrl+C
Cut	CTRL+X
Delete	DELETE
Display Help on the selected dialog box item	F1
Paste	CTRL+V
Undo	CTRL+Z
Display the current window's system menu	ALT+SPACE BAR
Display the shortcut menu for the selected item	SHIFT+F10
Display the Start menu	CTRL+ESC

Navigating the grids of FITEval

Keyboard navigation

You can navigate the grids by using the arrow keys (UP, DOWN, LEFT, RIGHT) and the Page Up (PGUP), Page Down (PGDN), HOME and END keys of the keyboard.

- **UP/DOWN ARROWS:** Use these keys to move the cursor to adjacent **rows**.
- **LEFT/RIGHT ARROWS:** Use these keys to move the cursor to adjacent **columns**.
- **PGUP, PGDN:** Use these keys to scroll the grid **up** or **down** an entire page.
- **HOME, END:** Use these keys to move to the first (HOME) or last (END) column. If necessary, the grid will scroll horizontally so that the current cell becomes visible. The current row does not change. If the current cell is being edited, use HOME and END to move the insertion point to the beginning or end of the cell's text.

Mouse navigation

When you click in a cell, that cell becomes active. Use the mouse to manipulate the grid's scroll bars or to display the hidden (out of range) rows and columns, thereby bringing cells that lie outside the grid's display area into view. The vertical scroll bar governs rows; the horizontal scroll bar governs columns. Note that the scroll bars do not change the active cell. Therefore, the active cell may not always be visible.

- **Using the grid's built-in list boxes:** When you click the in-cell button, a drop-down combo box appears which enables you to select an item. You cannot insert items other than those displayed in the list. In most cases, you can copy a selection with **CTRL+C** and paste it in another cell (located in the same column) with **CTRL+V**.
- **Adding a record:** When the grid allows you to manually add new data, an empty row marked by an asterisk (*) will be displayed after the last record. You can initiate an add operation by navigating to the new row, either by clicking on it or by using the DOWN ARROW key, then typing new data or, if available, selecting a list option with one built-in list box. The newly inserted blank row becomes the current row. At this point, the new row exists only in the grid--it does not yet represent a physical database record. The database record will be saved when you click in another row.
- **Deleting a record:** To delete a record, select the row to be deleted by clicking on its record selector (▾) and press on the DEL key. You can only delete one row at a time. You cannot select multiple rows and press the DEL key to delete them all.
- **Updating a record:** When you have finished updating data in a cell, click in another row to save the modifications.



CHAPTER 4 • CLIENTS, TRAINERS, GROUPS

This chapter explains how to add, modify and delete information on clients, trainers and groups.

Clients

In FITeval, the term « Client » indicates an individual, a patient or an athlete. Each assessment, training plan, time tracking or monitoring record is associated to a client or a group of clients. Consequently, the insertion of clients is an inevitable procedure of FITeval.

Adding a new client

- Double-click on the **Clients** icon of the **Clients, Trainers, Groups** tab, click on the right button of the mouse and select the **Add client** option or, click on the **Clients** button located in the buttons bar of the main window.
- In the **Client** window, enter the requested information. The yellow boxes must absolutely be filled.
- Once the information entered, click on the **Add** button to save the data.

The yellow boxes must absolutely be filled.

Modifying an existing client

- Double-click on the **Clients** icon of the **Clients, Trainers, Groups** tab.
- Click on the name of the client to modify and click on the right button of the mouse.
- Select the **Edit client** option.
- In the **Client** window, modify the desired information.
- Click on the **Update** button to save the changes.

Recording training preferences

- In the **Client** window, click on the **Preferences** tab.
- Select the training activities that your client likes in the **Likes...** grid and those that he/she doesn't like in the **Dislikes...** grid (Click in an empty row to display the list of available options).
- Click in another row to save the information.



Recording individual training goals

- In the **Client** window, click on the **Training Goals** tab.
- Select a **Training Goal** by selecting an option in the column.
- Select a **Body Part** by selecting an option in the column.
- Enter the **Priority** level (1-3) of the goal.
- Enter the date of **Planned Achievement** for the goal in the column.
- Once the goal is reached, enter the date of reach in the **Date of Achievement** column.
- Click in another row to save the information.

Recording medical information

- In the **Client** window, click on the **Medical** tab.
- Select a **Health Problem** by selecting an option in the column.
- Select a **Body Part** by selecting an option in the column.
- In the **Stopped Training** column, enter the date at which the client stopped training because of the health problem.
- In the **Resumed Training** column, enter the date at which the client resumed training.
- Click in another row to save the information.

Deleting an existing client

- Double-click on the **Clients** icon of the **Clients, Trainers, Groups** tab.
- Click on the name of the client to delete and click on the right button of the mouse.
- Select the **Delete client** option.



Trainers

In FITeval, the term « Trainer » indicates each user of the software. Since each client depends on a trainer, the insertion of trainers is an inevitable procedure of FITeval. If the security system is activated (see section Security, Chapter 12), only authorized trainers will have access to the functions of the software.

An Administrator trainer has access to all functions of the software.

The password is necessary only if the security system of the software is activated.

Adding a new trainer

- Double-click on the **Trainers** icon of the **Clients, Trainers, Groups** tab, click on the right button of the mouse and select the **Add trainer** option or, click on the **Trainers** button located in the buttons bar of the main window.
- In the **Trainer** window, enter the requested information. The yellow boxes must absolutely be filled.
- Once the information entered, click on the **Add** button to save the data.

Modifying an existing trainer

- Double-click on the **Trainers** icon of the **Clients, Trainers, Groups** tab.
- Click on the name of the trainer to modify and click on the right button of the mouse.
- Select the **Edit trainer** option.
- In the **Trainer** window, modify the desired information.
- Click on the **Update** button to save the changes.

Deleting an existing trainer

- Double-click on the Trainers icon of the **Clients, Trainers, Groups** tab.
- Click on the name of the trainer to delete and click on the right button of the mouse.
- Select the **Delete trainer** option.

Administrator Option

If you want the current trainer to have access to all client folders as well to the configuration module of the software, select the **Administrator** option () located at the bottom of the **Trainer** window. If you want the trainer to have access to his/her clients only and to a limited access to the configuration module of the software, deselect () the **Administrator** option ()



Groups

FITeval allows you to group clients having similar characteristics (same sport, same level, same preferences, etc.). The creation of such groups is particularly useful when you need to create training plans for a team, or when you need to standardize the assessment methods for a specific population.

List of clients inserted in the database and practicing the selected sport.

Adding a new group

- Double-click on the **Groups** icon of the **Clients, Trainers, Groups** tab, click on the right button of the mouse and select the **Add group** option or, click on the **Groups** button located in the buttons bar of the main window.
- In the **Group** window, enter the name of the group, select a sport/activity in the list and insert the contact name in the **Group Information** frame.
- Click on the **Add** button. This operation will activate the **Group Details** frame.
- In the **Group Details** frame, select a sport in the **Display clients practicing...** list. All clients practicing the selected sport will be displayed in the **Available for insertion** list.

Inserting clients in a group

Method 1 - From the main window

- Double-click on the **Groups** icon of the **Clients, Trainers, Groups** tab.
- Open the list of clients by double-clicking on the **Clients** icon.
- Press on the **Shift** key of the keyboard, click on the name of the client to insert in the group and, while pressing on the **Shift** key and on the left button of the mouse, move the cursor over the name of the group in which you want to insert the selected client.
- Release the **Shift** key and the mouse. A message will ask you to confirm the insertion.

Method 2 - From the Group window

- In the **Group Details** frame of the **Group** window, select a sport in the **Display clients practicing...** list. All clients practicing the selected sport will be displayed in the **Available for insertion** list.
- To insert a client in the group, double-click on its name in the **Available for insertion** list. The name of the client is immediately displayed in the **Inserted in group** list.
- The information inserted in the **Group Details** frame is automatically saved.

Deleting a client from an existing group

Method 1 - From the main window

- Double-click on the **Groups** icon of the **Clients, Trainers, Groups** tab.
- Double-click on the name of the group containing the subject to delete.
- Click on the name of the client to delete and click on the right button of the mouse.
- Select the **Delete from group** option.

Method 2 - From the Group window

To delete a client from a group from the **Group** window, double-click on the name of the client in the **Insert in group** list.

Modifying a group

- Double-click on the **Groups** icon of the **Clients, Trainers, Groups** tab.
- Select the name of the group to modify and click on the right button of the mouse.
- Select the **Edit group** option.
- In the **Group** window, modify the desired information.
- Click on the **Update** button to save the changes.

Deleting a group

- Double-click on the **Groups** icon of the **Clients, Trainers, Groups** tab.
- Select the name of the group to delete and click on the right button of the mouse.
- Select the **Erase group** option.

i *The clients included in the deleted group are not erased and remain accessible by double-clicking on the Clients icon.*

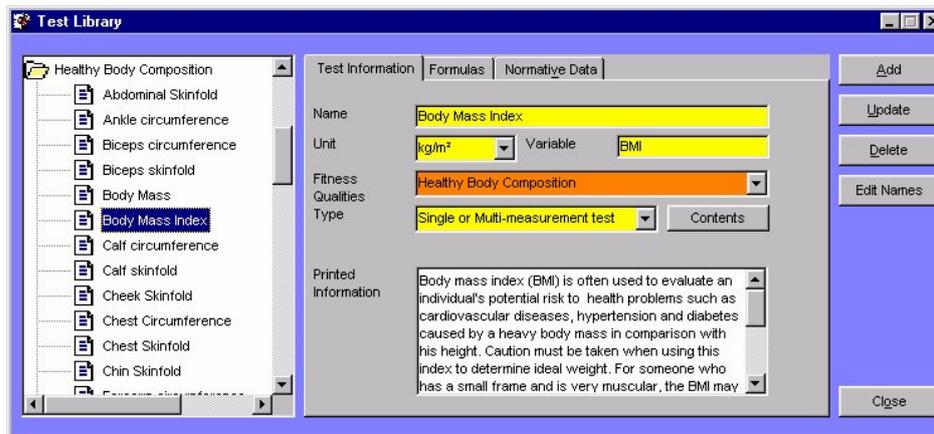


CHAPTER 5 • CONFIGURING THE ASSESSMENT MODULE

The tests, norms and test batteries used during evaluations depend on those defined in the test library and in the configuration of test batteries module. It is therefore highly recommended to configure these elements **before** beginning the insertion of fitness assessment data. The present chapter explains the steps to follow to carry out these operations.

Test Library

From the test library, you can add new tests, modify the way FITeval calculates and interprets results, and personalize the text printed on assessment reports. To open the **Test Library** window, click on the **Settings** button located in the buttons bar of the main window and double-click on the **Test Library** icon.



All tests in the **Test Library** window are classified according to the fitness quality they assess. To display the list of available tests for a given fitness quality, double-click on the name of the fitness quality.

Adding new tests to the library

FITeval allows you to add four types of tests:

- **Single measurement tests**, such as body mass and broad jump.
- **Multiple measurement tests**, such as the sum of four skinfolds or body mass index.
- **Multistage tests**, such as the 20m shuttle-run or the multistage running test on treadmill.
- **Questionnaires**, such as the physical activity participation questionnaire.

Adding a single measurement test

- In the list displayed on the left-hand side of the **Test library** window, click on the name of the fitness quality in which to insert the new test.
- Enter the name of the new test in the **Name** box.
- Select the unit in which the result of the test will be expressed in the **Unit** list.
- Insert the variable that will be associated to the test in the **Variable** box. The variable must be unique to the test and must not include the following characters: L, S, E, +, -, *, /, (or).
- Select **Single or Multi-measurement test** in the **Type** list.
- Click on the **Add** button.



Adding a multiple measurement test

- In the list displayed on the left-hand side of the **Test library** window, click on the name of the fitness quality in which to insert the new test.
- Enter the name of the new test in the **Name** box.
- Select the unit in which the result of the test will be expressed in the **Unit** list.
- Insert the variable that will be associated to the test in the **Variable** box. The variable must be unique to the test and must not include the following characters: L, S, E, +, -, *, /, (or).
- Select **Single or Multi-measurement test** in the **Type** list.
- Click on the **Add** button.
- In the list, double-click on the name of the fitness quality containing the newly inserted test and click on the name of the test.
- Click on the **Contents** button.
- In the **Contents** window, double-click on the name of the measures that will be used to calculate the final result. For example: to calculate the sum of two skinfolds of the trunk (the test), double-click on the names **Subscapular skinfold** and **suprailiac skinfold** in the **List of measures**.
- To delete a measure used in the calculation of the final result of a test, double-click on the name of the measure to delete. With this function, you can easily combine the results of two tests to calculate that of a third (for example, to calculate percent body fat using two different methods).
- Once the operation finished, exit the **Contents** window by clicking on the **Exit** button. The information is automatically saved.

❗ *If the variable associated to a test is modified, and that this variable is used by one or more formulas, all formulas using this variable must be modified to reflect these changes.*

Adding a multistage test

- In the list displayed on the left-hand side of the **Test library** window, click on the name of the fitness quality in which to insert the new test.
- Enter the name of the new test in the **Name** box.
- Select the unit in which the result of the test will be expressed in the **Unit** list.
- Insert the variable that will be associated to the test in the **Variable** box. The variable must be unique to the test and must not include the following characters: L, S, E, +, -, *, /, (or).
- Select **Multistage test** in the **Type** list.
- Click on the **Add** button.
- Double-click on the name of the fitness quality containing the newly inserted test and click on the name of the test.
- Click on the **Contents** button.
- In the **Contents** window, select one of the options: **Male version** or **Female version**.
- Click on an empty cell in the **Stage name** column and select the name of the first stage (this text will be displayed/ printed on the X-axis of the graph).
- In the **Load A** column, enter the workload A (energy cost, speed, etc.) associated with the selected stage (this value will be used by the formula for the calculation of VO₂).
- If necessary, enter the workload B associated with the selected stage in the **Load B** column.
- In the **Reference** box, enter the reference information associated to test being added.
- Once the operation finished, exit the **Contents** window by clicking on the **Exit** button. The information is automatically saved.



Adding a questionnaire

- In the list displayed on the left-hand side of the **Test library** window, click on the name of the fitness quality in which to insert the new questionnaire.
- Enter the name of the new questionnaire in the **Name** box.
- Select the unit in which the result of the questionnaire will be expressed in the **Unit** list.
- Insert the variable that will be associated to the questionnaire in the **Variable** box. The variable must be unique to the questionnaire and must not include the following characters: L, S, E, +, -, *, /, (or).
- Select **questionnaire** in the **Type** list.
- Click on the **Add** button.
- Double-click on the name of the fitness quality containing the newly inserted questionnaire and click on the name of the questionnaire.
- Click on the **Contents** button to access to the details of the questionnaire and to define its structure.

Adding a question to the questionnaire

- In the **Questions** tab, click on the **Add** button. Enter the name of the new question and click on **Ok**.
- Click on the name of the new question in the **Question List** and enter the text of the question in the **Question Text** box.
- Click on the **Add** button to save the information.
- Repeat the operation for each question of the questionnaire.

Modifying an existing question

- In the **Questions** tab, select a question in the **Question List**.
- In the **Question Title** box, modify the title of the question.
- In the **Question Text** box, enter the text of the question.
- Click on the **Update** button to save the modifications.

Deleting a question

- Select the question to delete by clicking on its name in the **Question List**.
- Click on the **Delete** button.

Adding an answer to a question

- Select the question for which you want to add an answer in the **Question List**.
- Click on the **Answers** tab (the text of the selected question will be displayed on the top of the window).
- Click on the **Add** button.
- Insert the text of the new answer and click on **Ok**.

Defining points associated to each answer of a questionnaire

- Once the answer is displayed in the **Answer list**, select the **Male Score** option.
- Insert the number of points to be added to or subtracted from the final result of the questionnaire each time that the answer is selected (to insert a negative score, insert a minus sign in front of the value).
- Select the **Female Score** option and repeat the operation. The scores are automatically saved as they are inserted and can be replaced at any time by new values.
- Repeat the operation for each answer of the selected question.



Modifying a test or a questionnaire

- In the list displayed on the left-hand side of the **Test library** window, double-click on the name of the fitness quality containing the test or questionnaire.
- Click on the name of the test or questionnaire to modify.
- Insert the new information, formulas, and norms.
- Click on the **Update** button.

Deleting a test or a questionnaire

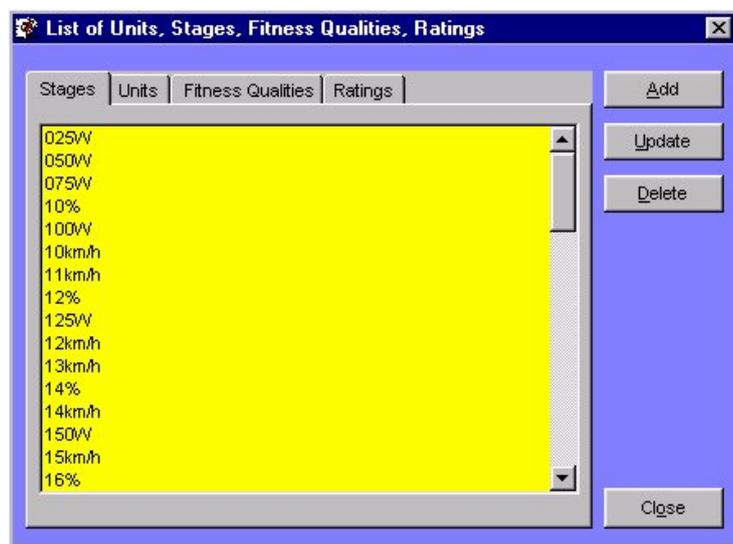
- In the list displayed on the left-hand side of the **Test library** window, double-click on the name of the fitness quality containing the test or questionnaire
- Click on the name of the test or questionnaire to delete.
- Click on the **Delete** button.

Units, stages, fitness qualities and ratings

- Click on the **Settings** button located in the buttons bar of the main window.
- In the **Settings** window, double-click on the **List of units, stages, fitness qualities, ratings** icon.

Adding stages or units

- Open the **Stages** tab or the **Units** tab.
- Click on the **Add** button.
- Enter the name of the new stage or new unit.
- Click on **Ok**.



i The values displayed in the Units and in the Fitness Qualities tabs are also used by the training-planning module.



Modifying stages or units

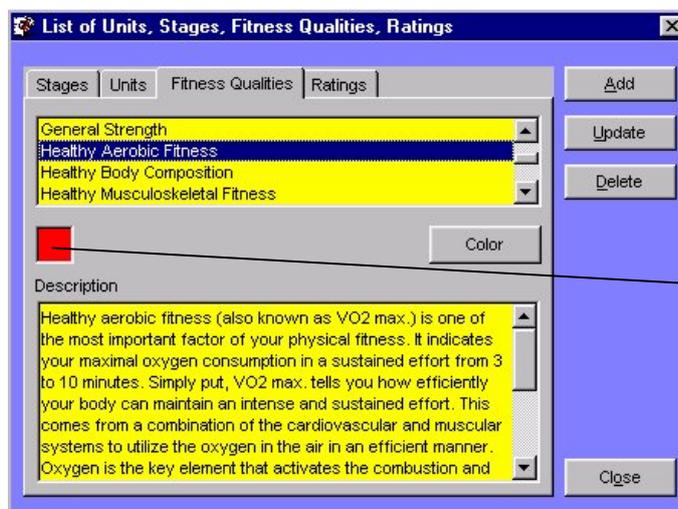
- Open the **Stages** tab or the **Units** tab.
- Click on the stage or unit to modify in the list.
- Click on the **Update** button.
- Enter the new name and click on **Ok**.

Deleting stages or units

- Open the **Stages** tab or the **Units** tab.
- Click on the stage or unit to delete in the list.
- Click on the **Delete** button.

Adding a fitness quality

- Open the **Fitness Qualities** tab.
- Click on the **Add** button.
- Enter the name of the new fitness quality.
- Click on **Ok**.
- Select the newly inserted fitness quality and click on the **Color** button.
- Select a color from the displayed list. This color will represent the fitness quality in training plans.
- In the **Description** box, enter the text that will be printed on fitness reports when a test soliciting this fitness quality is used.



This color is used to represent the fitness quality in training plans.

Modifying a fitness quality

- Open the **Fitness Qualities** tab.
- Click on the name of the fitness quality to modify.
- Modify the color associated to the fitness quality by clicking on the **Color** button.
- Modify the description of the fitness quality in the **Description** box.
- Click on the **Update** button.
- Modify the name of the fitness quality and click on **Ok**.



Deleting a fitness quality

- Open the **Fitness Qualities** tab.
- Click on the name of the fitness quality to delete.
- Click on the **Delete** button.

Modifying the ratings system

FITeval uses an entirely customizable ratings system. This system allows you to associate a comment and a value to each result category. The value is used on the y-axis of fitness report graphs. By default, FITeval uses a scale from 1 to 5, 5 being the optimum or excellent result and 1 being the less desirable result. The scale and associated text, however, can be modified at any times.

Adding a rating

- Open the **Ratings** tab.
- Go to the end of the list, click in the empty cell located to the right of the asterisk (*) and enter the note description in the **Description** column.
- In the **Rating** column, enter the value that will be associated to the note description (usually from 1 to 5).
- Click in another row to save the modifications.



i The graphs printed on reports are automatically adjusted in function of the maximum note obtained during the assessment. It is highly recommended to assign a value of 5 to the optimum category result and a value of 1 to the less desirable category result.

Modifying a rating

To modify an existing rating, open the **Ratings** tab and modify the values displayed in the grid. Click in another row to save the modifications.

Deleting a rating

To delete an existing rating, open the **Ratings** tab, click on the grid row separator (the rating and the text associated to the note appear in dark blue). Press on the **DEL** key of the keyboard.



Formulas, correction factors, norms, populations

Formulas

One of the most powerful tools of FITeval is its capacity to use practically any formula to calculate test results. These formulas are built by combining constants, operators and variables associated to each test.

Variables: Variables are groups of alphabetical characters associated to each test or measure. Each variable is unique. During the calculation of a test result, the value of each measure is associated to the corresponding variable. The test result is calculated in accordance to the formula (which includes two or more variables) associated to the test.

Constants: Constants are numeric values that never change. For example, in the 220-AGE formula, used to predict maximum heart rate in function of age, 220 is a constant.

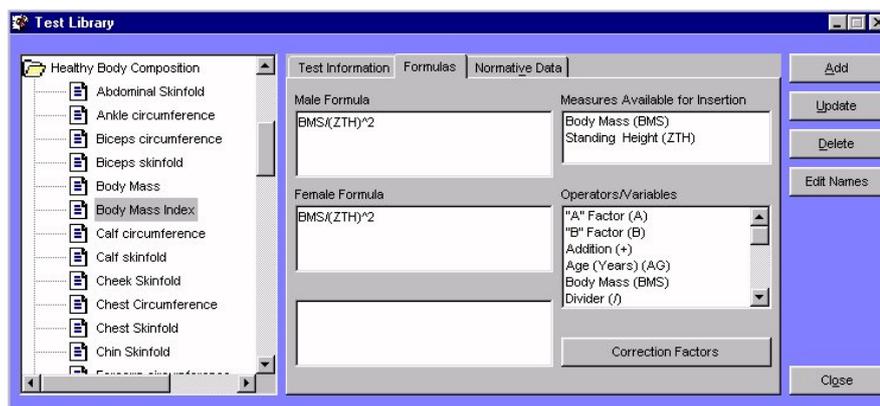
Operators: Operators are characters that define the different operations of calculations. The following operators and variables are available in FITeval :

Operator/Variable	Function
E	Exponentiation
S	Inserts a square root
L	Inserts the natural logarithm of a number. To insert a log10, enter the following function: (Log(X) / Log(10)); X being the number by which the Log will be returned.
+	Adds two values
SX	Returns the gender of the client
/	Divides two values
*	Multiplies two values
-	Subtracts two values
A	Inserts the symbol "A"
B	Inserts the symbol "B"
(Inserts a left parenthesis
)	Inserts a right parenthesis
BMS	Returns the body mass of the client
AG	Returns the age of the subject
WLOADA	Returns the workload A associated to each stage
WLOADB	Returns the workload B associated to each stage
maxhr	Returns the highest heart rate obtained during a multistage test



Adding a formula to an existing test

- To associate a formula to an existing test, double-click on the name of the fitness quality containing the test and click on the name of the test in the list.
- Click on the **Formulas** tab.



- Click on the one of the boxes **Male Formula** or **Female Formula**. The **Male Formula** box is reserved for the formula used for men while the **Female Formula** box is for the formula used for woman.
- Double-click on the name of the measure to insert in the **Measures Available for Insertion** list. The variable associated to the measure is automatically inserted at the end of the formula. The variables associated to the measures can also be inserted directly in the **Male Formula** or **Female Formula** boxes.
- Double-click on the operators to insert in the formula in the **Operators/Variables** list. The operator is automatically inserted at the end of the formula. The operators can also be inserted directly in the **Male Formula** or **Female Formula** boxes.
- Enter the constants directly in the formula.
- In the **Reference** box, enter the reference, note, etc. that will allow you to find of the formula.
- Insert the formula used to calculate the test result of the opposite sex.
- Click on the **Test Information** tab. The formulas are automatically saved.

Functioning of formulas - example 1

Formula: 220-AG

Purpose: predicts maximum heart rate in function of age.

Constant used: 220.

Operator used: -

Variable used: AG: Age, automatically calculated based on the client's birth date and the today's date.

Example: If the calculated age is 30, the maximum heart rate corresponding to 220-AG is: $220-30=190$.



Functioning of formulas - example 2

Formula: $10*(17.2+(1.29*WLOADA)-(0.09*BMS)-(0.18*AG))$

Purpose: calculates aerobic fitness score from the mCAFT multistage step-test.

Constants used: 10; 17.2; 1.29; 0.09, 0.18

Operators used: *; +; -, (,)

Variables used:

- BMS= Variable associated to the client's body mass.
- WLOADA = Oxygen cost at the given stage (Load A).
- AG = Age, automatically calculated based on the client's birth date and the today's date.

Example:

If the client is 47 years old, has a body mass of 60kg and has completed stage 6 of the mCAFT step test, the values associated to the variables are:

BMS=60

WLOADA=33.6

AG=47

Consequently, the final test result (in points) will be calculated as follows:

$=10*(17.2+(1.29*33,6)-(0.09*60)-(0.18*47))$

$=10*(17.2+(43.34)-(5.4)-(8.46))$

$=10*(17.2+(29.48))$

$=10*46.68$

$=466.8$

Modifying an existing formula

- To modify an existing formula, double-click on the name of the fitness quality containing the test and click on the name of the test in the list.
- Click on the **Formulas** tab.
- In the **Male Formula** and **Female Formula** boxes, modify constants, operators and variables as presented in the section « Addition of a formula to an existing test ».
- Click on the **Test Information** tab. The modifications are automatically saved.

Deleting an existing formula

- To delete an existing formula, double-click on the name of the fitness quality containing the test and click on the name of the test in the list.
- Click on the **Formulas** tab.
- Delete the formulas displayed in the **Male Formula** and **Female Formula** boxes.
- Click on the **Test Information** tab. The modifications are automatically saved.



Correction factors

Correction factors depend on the sex and age of clients. They are commonly used by formulas during calculations. For example, calculation of percent body fat using the method developed by Durnin-Wormesley (method using 4 skinfolds) uses factors "A" and "B". To add, modify or delete correction factors associated to a test, proceed as follow:

- Open the **Test Library** window, double-click on the name of the fitness quality containing the test and click on the name of the test in the list.
- Click on the **Formulas** tab.
- Click on the **Correction Factors** button.
- In the newly displayed window, select the factor to modify in the **Factors** list.
- In the **Minimum Age** column, enter the lowest age required (in years) to be included in the age group.
- In the **Maximum Age** column, enter the highest age required (in years) to be included in the age group.
- In the **Value** column, enter the factor (numeric value) that will be associated to the sex and age group being modified.
- Enter the reference of the factor in the **Reference** column (optional).
- Repeat the operation for each age category and sex.
- The modifications are automatically save when you click in another row.

① *To delete a correction factor, click on the grid row separator (the selected row appears in dark blue) and click on the DEL key of the keyboard.*

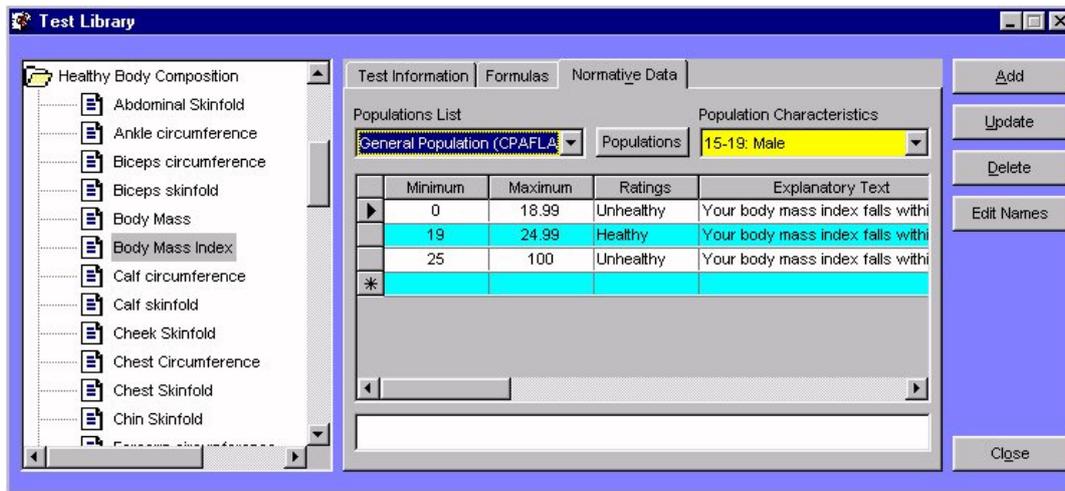


Norms

To interpret results in the most precise manner, FITeval allows you to use norms adapted to each category of individuals. This section explains how to add/modify/delete norms, populations and age groups associated to each result category.

Modifying norms

- In the list displayed on the left-hand side of the **Test library** window, double-click on the name of the fitness quality containing the test.
- Click on the name of the test
- Click on the **Normative Data** tab.



- Select the name of the population for which you want to modify the norms in the **Population List**.
- Select the population characteristics in the **Population Characteristic** list.
- In the **Minimum** column, enter the lowest result required to be included in the category.
- In the **Maximum** column, enter the highest result required to be included in the category.
- In the **Ratings** column, select the note that will be associated to the result.
- In the **Explanatory text** column, enter the text associated to the rating. This text will appear on assessment reports.
- Repeat the operation for each population and each test.

Deleting norms

To delete values displayed in the grid, click on the grid row separator (the selected row appears in dark blue) and click on the **DEL** key of the keyboard.



Editing populations and age groups

In the list displayed on the left-hand side of the **Test library** window, double-click on the name of the fitness quality containing the test. Click on the **Normative Data** tab, on the **Populations** button, and proceed as follow:

Adding a new population

- In the newly displayed window, click on the **Add** button.
- Enter the name of the new population (be as descriptive as possible). Click on **Ok**.
- Click on the name of the new population in the **Population List**. Click on the **Population Details** tab.
- In the **AgeMin** column, enter the lowest age required (in years) to be included in the age group.
- In the **AgeMax** column, enter the highest age required (in years) to be included in the age group.
- In the **Male** column, enter 1 for men age groups and 0 (inserted by default) for women age groups.
- Click in another row to save the modifications.
- Repeat the operation for all age groups to be included in the population being modified.

Modifying an existing population

- Select a population by clicking on its name in the **Population List**.
- Enter a new name in the **Population Name** box.
- Click on the **Population Details** tab.
- In the **AgeMin** column, enter the lowest age required (in years) to be included in the age group.
- In the **AgeMax** column, enter the highest age required (in years) to be included in the age group.
- In the **Male** column, enter 1 for men age groups and 0 (inserted by default) for women age groups.
- Click in another row to save the modifications.

Deleting an existing population

- Select a population by clicking on its name in the **Population List**.
- Click on the **Delete** button.

i *When you delete a population, the norms associated to the population will also be erased.*



Example - Adding and designing a 3 stages level running test

This example illustrates how you can easily create a new 3 Stages Level Running Test, assign a workload to each stage, create a formula to calculate the result based on the workload and insert the new test in the test battery. The 5 steps included in this operation are:

- 1) Opening the test library
- 2) Adding the test to the test library
- 3) Defining the test structure
- 4) Inserting the calculation formula
- 5) Inserting the test in the test battery

Opening the test library

Click on the **Settings** button located in the buttons bar of the main window and double-click on the **Test library** icon.

Adding the test to the test library

- In the list displayed on the left-hand side of the **Test library** window, click on the **Healthy Aerobic Fitness** folder.
- Type in *3 Stages Level Running Test* in the **Name** box.
- Select *km/h* in the **Unit** list.
- Type in *TSRT* in the **Variable** box.
- Select *Healthy Aerobic Fitness* in the **Fitness Quality** list.
- Select *Multistage test* in the **Type** list.
- Since this is a maximum test, leave the **Extrapolate result to the age-predicted Max. Heart Rate** option deselected.
- In the **Printed information** box, insert « This test is designed to predict your healthy aerobic fitness». This text will be printed on assessment reports.
- Click on the **Add** button.

Defining the test structure

- Double-click on the **Healthy Aerobic Fitness** folder and select the *3 Stages Level Running Test* option.
- Click on the **Contents** button.
- Select **Male version** in the list.
- Select *10km/h* in the **Stage Name** list.
- Type in *10* in the **Load A** column. Leave the Load B column blank.
- Select *11km/h* in the **Stage Name** list.
- Type in *11* in the **Load A** column. Leave the Load B column blank.
- Select *12km/h* in the **Stage Name** list.
- Type in *12* in the **Load A** column. Leave the Load B column blank.
- Click in another row to save the modifications.
- Select **Female version** in the list.
- Select *10km/h* in the **Stage Name** list.
- Type in *10* in the **Load A** column. Leave the Load B column blank.
- Select *11km/h* in the **Stage Name** list.
- Type in *11* in the **Load A** column. Leave the Load B column blank.
- Select *12km/h* in the **Stage Name** list.
- Type in *12* in the **Load A** column. Leave the Load B column blank.
- Click in another row to save the modifications.
- Click on the **Close** button to exit the window and return to the **Test Library** window.



Inserting the calculation formula

- Click on the **Formulas** tab.
- In the **Formulas** tab, click on the **Male Formula** box.
- Double-click on the *WLOADA* operator in the **Operators/Variables** list, or enter *WLOADA* directly in the **Formula (M)** box.
- Type **3,5* directly in the **Male Formula** box. The formula should look like: *WLOADA*3,5*
- Select the contents of the **Male Formula** box, press the **Ctrl+C** keys, click in the **Female Formula** text box and press the **Ctrl+V** keys.
- Click on the **Close** button to exit the **Test library** window.

Inserting the test in the test battery

- Click on the **Settings** button located in the buttons bar of the main window.
- Double-click on the **Test Batteries** icon.
- Click on *General population* from the **Batteries** list.
- Click on *Healthy Aerobic Fitness* in the **Fitness Quality** list.
- Double-click on *3 Stages Level Running Test* in the **Tests Included in Battery** list.
- The test is inserted in the battery and its name is automatically displayed in the **Tests Included in Battery** list.
- Exit the **Test Batteries** window.

Congratulation, you are now ready to use the new *3 Stages Level Running Test* with your clients!



Configuring test batteries

To facilitate test management and to allow you to assess your clients with tests perfectly adapted to their characteristics, FITeval allows you to group together your tests in batteries of tests (assessment protocols). You can define an unlimited number of test batteries, each one aiming a specific population and containing as many tests as desired.

i A test must be inserted in a test battery before it can be used during fitness assessments.

To open the **Test Batteries** window, click on the **Settings** button located in the buttons bar of the main window and double-click on the **Test Batteries** icon.

Adding a test battery

- In the **Test Batteries** window, click on the **Add** button.
- Enter the name of the new battery and click on **Ok**.
- Once the name of the new battery is added to the **Batteries** list, click on its name and enter the information related to the battery in the **Information** box.

Inserting a test in a test battery

- In the **Batteries** list, click on the name of the battery in which you want to insert the test.
- Select a fitness quality in the **Fitness Quality** list. The names of all tests that can be inserted are automatically displayed in the **Tests Available** list. In this list, double-click on the test to be inserted in the battery. The name of the test is automatically added to the battery and displayed in the **Tests Included in Battery** list.
- Repeat the operation for each test to be inserted in the battery.

Deleting a test in a test battery

- Click on the name of the battery containing the test to be deleted in the **Batteries** list.
- In the **Tests Included in Battery** list, double-click on the name of the test to be deleted from the battery. The name of the test will disappear from the list.

i A test can be simultaneously inserted in several test batteries.

Modifying a test battery

- Click on the name of the battery to modify in the **Batteries** list.
- Enter the new information in the **Battery Name** and **Battery Information** boxes.
- Click on the **Update** button to save the modifications.

Deleting a test battery

- Click on the name of the battery to delete in the **Batteries** list.
- Click on the **Delete** button.

i When a test is deleted from a test battery, it remains available for insertion in other batteries.



CHAPTER 6 • INSERTING ASSESSMENT DATA

This chapter presents the steps to follow to select a test battery and save fitness assessment data. The four steps are:

- 1) Selecting the client to assess.
- 2) Adding a new assessment date.
- 3) Selecting the test battery used for the assessment.
- 4) Recording the data.

Selecting the client

Double-click on the **Clients** icon of the **Clients, Trainers, Groups** tab and click on the name of the client to assess. If the client is part of a group, double-click on the **Group** icon, double-click on the name of the group containing the client, and click on the name of the client.

Adding a new assessment date

- Once the client is selected, click on the **Assessments** icon located in the right frame of the main window.
- Click on the right button of the mouse and select the **New assessment** option.
- Enter the date of the new assessment (the current date is displayed by default) and click on **Ok**. The **Battery Selection** window will appear.

Selecting the test battery used for the assessment

Form the **Battery Used** window, select the battery containing the tests you want to use during the assessment and click on the **Continue** button (you cannot select more than one battery at a time). The **Assessment** window will appear.

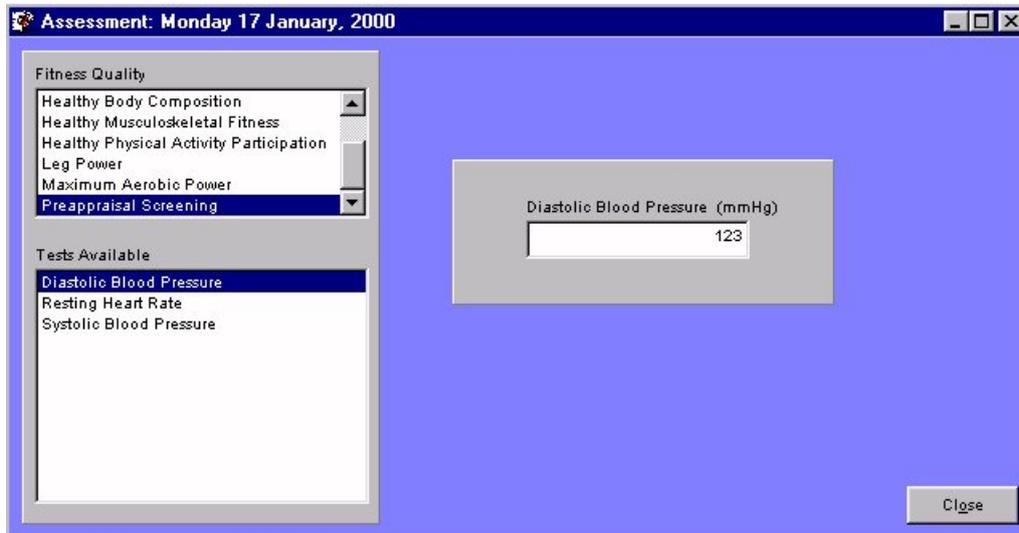
① *If you always use the same test battery, and do not want the **Battery used** window to be displayed before each assessment, deselect the **Display test batteries** option located in the **Battery used** window.*



Recording the data

- From the **Assessment** window, select a fitness quality in the **Fitness Quality** list. All test associated to the quality will be displayed in the **Tests Available** list.

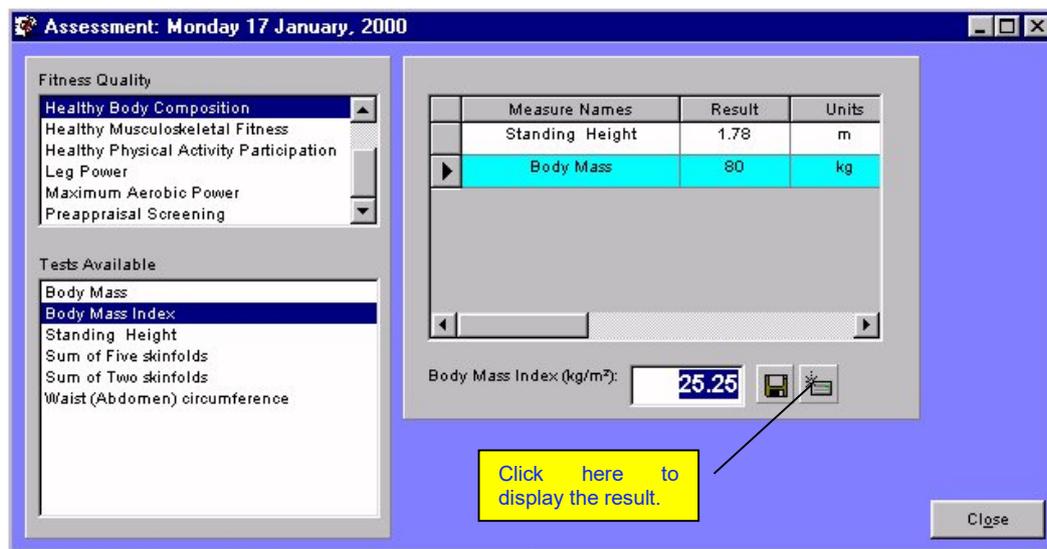
Recording single measurement test data



- Select the test by clicking on its name in the **Tests Available** list. A box will appear on the right hand side of the screen.
- Enter the test result in the box. The result is automatically saved when you click on another test name or press on the **Enter** key of the keyboard.



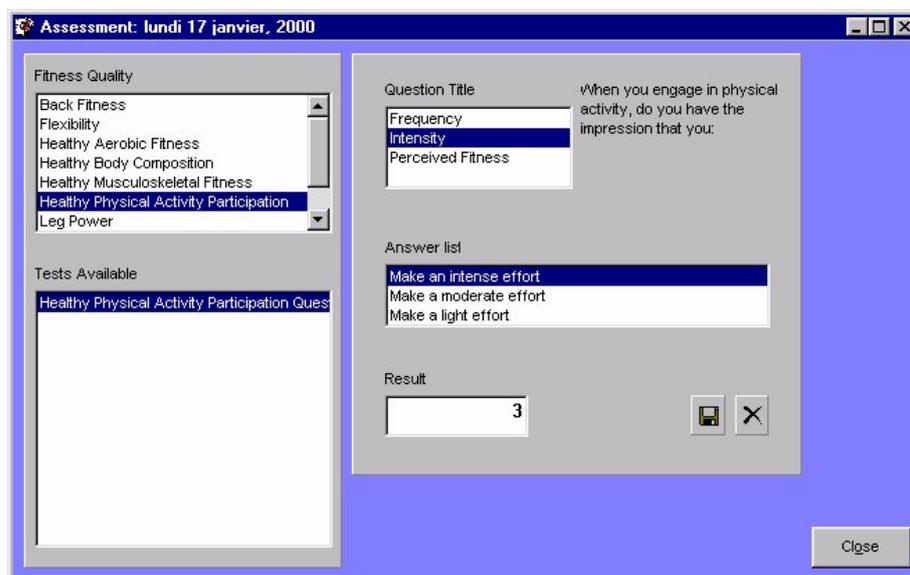
Recording multiple measurement test data



- Select the test by clicking on its name in the **Tests Available** list. A grid will appear on the right hand side of the screen.
- Enter the result of the first measure in the first row of the **Result** column.
- In the **Result** column, click in the next row to change the active cell and enter the result of the following measure.
- Once all data have been entered, click on the  button to calculate, save and display the final result. For a more rapid grasp, you can also press on the **Enter** key.
- To save a result that differs from the one calculated by the formula, enter the desired value in the box displaying the final result and click on the  button.



Recording questionnaire data



- Select the **Healthy Physical Activity Participation** option in the **Fitness Quality** list and the **Healthy Physical Activity Participation Questionnaire** option in the **Tests Available** list. A grid appears on the right and side of the screen.
- Select a first question in the **Question Title** list. The question text is displayed to the right of the list.
- Select an answer by clicking on its name in the **Answer list**. The final result of the questionnaire is automatically displayed in the **Result** box each time an answer is selected.
- To save a result that is different than the one calculated by the formula, enter the desired value in the **Result** box and click on the  button.



Recording multistage test data

Measure Names	Heart Rate	Lactate	RPE
100W	0	0	0
150W	123	0	0
200W	134	0	0
250W	167	0	0

Astrand Ryhming (L/min):

Maximum Heart Rate: 190
Recommended range (55-85%): 105-162

Automatically Overwrite Max. Heart Rate

Close

- Select the **Healthy Aerobic Fitness** option in the **Fitness Quality** list and the **Astrand Ryhming** option in the **Tests Available** list. A grid will appear on the right hand side of the screen.
 - In the **Heart Rate** column, enter the heart rate associated to each stage. You can begin the insertion of data at any stage. Stages with H.R. of "0" are neither taken in consideration by calculations, nor are they printed on reports or displayed in graphs.
 - In the **Lactate** column, enter the lactate concentration associated to each stage (optional).
 - In the **RPE** column, enter the degree of difficulty associated to each stage, as subjectively perceived by the client (optional).
 - Click in another row to change the active cell, and enter the Heart Rate, Lactate and RPE associated to the next stage.
 - Once all data have been entered, click on the  button to calculate, save and display the final result. For a more rapid grasp, you can also press on the **Enter** key.
 - To save a result that differs from the one calculated by the formula, enter the desired value in the box displaying the final result and click on the  button.
- i** In case of a typing error, you can rapidly restart the multistage test and refresh the grid by clicking on the  button.



Inserting maximum heart rate (max. H.R.)

The maximum heart rate of the client being evaluated is automatically estimated using the 220-age formula as soon as the client's birth date is inserted. The value thus predicted is automatically displayed in the **Maximum Heart rate** box, located under the **Heart Rate, Lactate, RPE** grid. The range of heart rates recommended by the American College of Sports Medicine is also displayed (55-85% of the maximum heart rate).

Replacing the predicted maximum heart rate by the heart rate measured during a multistage test.

Method 1

Select the **Healthy Aerobic Fitness** option in the **Fitness Quality** list and the **Maximum Heart Rate** option in the **Tests Available** list. Enter a value corresponding to the maximum heart rate of your choice in the **maximum H.R. (bpm)** box.

Method 2

When a multistage test is displayed, select the **Replace predicted max. H.R. by the highest measured max. H.R.** option located under the **Heart Rate, Lactate, RPE** grid. This way, the maximum rate attained during the multistage test will automatically replace the predicted value. The range of recommended heart rates will automatically be updated.

i *The predicted maximum heart rate will not be updated when a multistage test uses the extrapolation method.*

A red flag  is automatically displayed when the max. H.R. of a client goes over 85% of his maximum heart rate.

Modifying an existing assessment

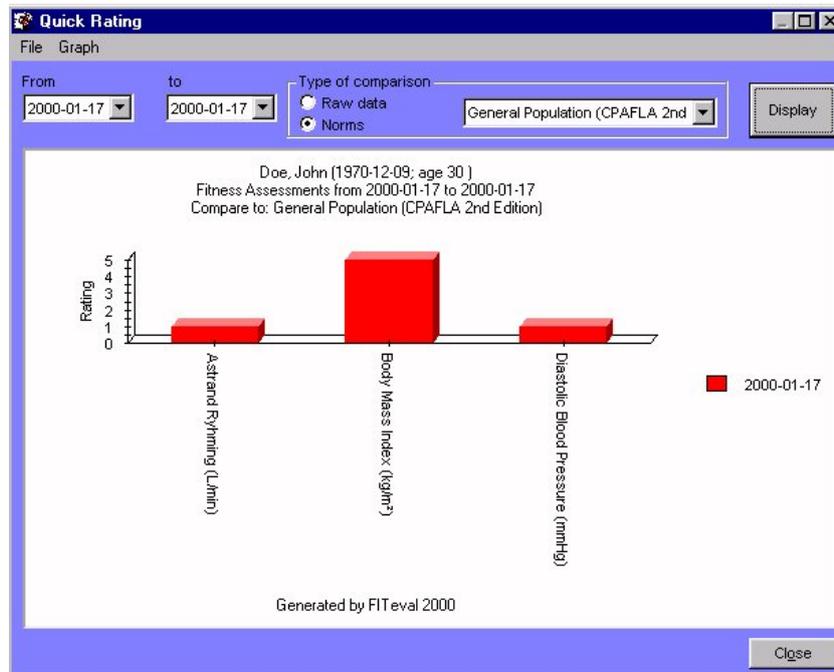
- Double-click on the **Clients** icon of the **Client, Trainers, Groups** tab and click on the name of the client.
- Double-click on the **Assessments** icon located in the right frame of the main window.
- Click on the assessment date to modify and click on the right button of the mouse
- Select the **Open assessment** button.
- Follow the instructions described in the above sections to enter the measurements.

i *To record the data of many assessments, without having to constantly open and close the **Assessment** window, click on the **Client, Trainers, Groups** tab of the main window (the **Assessment** window is automatically reduced and its icon placed in the lower left-hand corner of the main window), select a new client and a new assessment date, and re-maximize the **Assessment** window.*



Quick result and progression analysis

FITeval offers you the possibility to rapidly analyze assessment and individual progression data, in a raw or normalized manner, without having to print a document.



To activate this module and proceed to results analysis, proceed as follow:

- Double-click on the **Clients** icon of the **Clients, Trainers, Groups** tab and click on the name of the client.
- Double-click on the **Assessments** icon located in the right frame of the main window.
- Click on an assessment date and click on the right button of the mouse.
- Select the **Quick rating** option.
- Select the range of assessments to display in the **From** and **To** boxes. By default, the date selected in the **Assessment** icon is displayed in both boxes.
- Select the **Normative Data** option to compare the results in function of the norm library selected in the displayed list, or the **Raw data** option to compare the results in their raw form.
- Click on the **Display** button to display or refresh the graph.
- To export, print or copy the graph in the clipboard, select the appropriate option in the **Graph** menu, located in the upper left corner on the **Quick rating** window.



Recording fitness goals

- Double-click on the **Clients** icon of the **Clients, Trainers, Groups** tab and click on the name of the client.
- Double-click on the **Assessments** icon located in the right frame of the main window.
- Click on an assessment date and click on the right button of the mouse.
- Select the **Fitness goals** option.
- Select a test by clicking on its name in the **Tests Performed** list. The test result at the date selected is automatically displayed in the **Actual Result** box.
- Click on the upward or downward arrow, located on the right of the **Planned Evolution (%)** box. This operation will calculate and display the target result for the next assessment. When you click on the upward arrow, the target result increases, when you click on the downward arrow, it decreases.
- The target result is automatically calculated and displayed in the **Target result** box.
- Select the date of the next assessment in the **Next Assessment** box (the date for goal reach).
- Repeat the operation for each of the tests displayed in the **Tests Performed** list.

Deleting an existing assessment

- Double-click on the **Clients** icon of the **Clients, Trainers, Groups** tab and click on the name of the client.
- Double-click on the **Assessments** icon located in the right frame of the main window.
- Click on an assessment date to delete and click on the right button of the mouse.
- Select the **Delete assessment** option.



CHAPTER 7 • TRAINING PLANNING

Among of the main features of FITeval are its powerful training planning, workout generation and workload tracking functions. This chapter presents the steps to follow to:

- Configure the exercise and the workout template libraries.
- Create a training plan.
- Insert important events taken into consideration by the plan.
- Insert training sessions and automatically generate the load.
- Personalize the workload.
- Analyze the plan content.
- Print the plan and a monitoring worksheet.

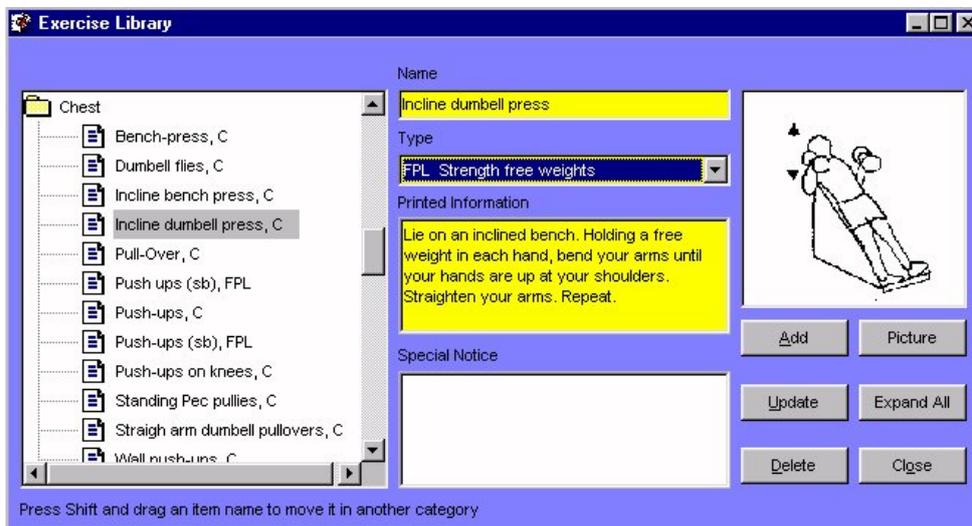
❗ *The training sessions inserted in your training plans depend on the exercises and workout templates defined in the exercise and workout template libraries. It is therefore highly recommended to configure these elements before beginning training planning.*

Configuring the exercise library

The exercise library contains all tests available for the creation of workout templates, which are the base of training plans. The present chapter explains how to add a new exercise, modify an existing exercise, import an image and select an exercise type.

Opening the exercise library

To open the **Exercise library** window, click on the **Settings** button located in the buttons bar of the main window and double-click on the **Exercise library** icon.



The left-hand side of the **Exercise library** window shows the list of body parts containing the exercises that solicit each part. To display the list of exercises available for each body part, double-click on the name of the body part.

To display the information related to an exercise, click on the name of the exercise. The name, type, information and, if available, image of the exercise are automatically displayed in the right-hand part of the window.



About exercise types

FITeval's exercise library contains more than 400 exercises, and allows you to insert your own exercises. For an optimum organization of these exercises and to allow you to rapidly find them when creating workout templates, the name of each exercise is followed by the abbreviation of the exercise type (maximum of 4 characters). The exercise types included in FITeval by default are:

Abbreviation and exercise type names	Description
FCAL Calisthenics	Exercises using body weight resistance
RUNN Running	Running exercises
SSWB Swiss-balls	Exercises using rehab-ball
FBAR Barbell	Strength exercises using barbells
FLEX Flexibility	Flexibility exercises
STMC Machine	Strength exercises using machines
SFWT Free weights	Strength exercises using free weights
FPL Plyometric	Strength exercises using the Plyometric method
FSPO Whole body	Various sport and whole body activities
REED Physical therapy	Physical therapy exercises
WUP Warm-up	Warm-up exercises

To access the list of exercise types, click on the **Settings** button located in the buttons of the main window and double-click on the **List of Sports, Events, Goals, Medical, Tasks, Exercise Types, Body part** icon. Click on the **Exercise Types** tab and proceed as follow:

Adding an exercise type

- Open the **Exercise type** tab.
- Click on the **Add** button.
- Enter a) the exercise-type abbreviation (4 characters or spaces followed by a space); b) the complete name of the exercise type. If the exercise type abbreviation includes less than 4 characters, make sure to replace each missing character by a space. **It is very important to follow this format.**
- Click on **Ok**.

Modifying an exercise type

- Open the **Exercise type** tab.
- Click on the exercise type to modify in the list.
- Click on the **Update** button.
- Modify the exercise type abbreviation (4 characters or spaces followed by a space); b) the complete name of the exercise type. If the exercise type abbreviation includes less than 4 characters, make sure to replace each missing character by a space. **It is very important to follow this format.**
- Click on **Ok**.



Deleting an exercise type

- Open the **Exercise type** tab.
- Click on the exercise type to delete in the list.
- Click on the **Delete** button.

Adding an exercise to the library

- In the list displayed on the left-hand side of the **Exercise Library** window, click on the name of the body part solicited by the exercise to be inserted.
- Click on the **Add** button.
- Enter the name of the new exercise and click on **Ok**.
- Click on the name of the newly inserted exercise.
- Select the exercise type in the **Type** list.
- In the **Printed Information** and **Special Notice** boxes, enter the text that will be printed with the exercise on workout templates and exercise sheets.
- Click on the **Picture** button and select the graphic file that represents the exercise being added (any graphic file with the extension .WMF or .BMP).
- Click on the **Open** button to import the graphic file in the exercise library.
- Click on the **Update** button to save the modifications.

Associating an existing exercise to a new body part

- Click on the name of the exercise to be inserted in a different body part.
- Click on the **Shift** key of the keyboard and, while pressing on the **Shift** key and on the left button of the mouse, move the cursor over the name of the new body part. Release the mouse button and the **Shift** key.

Deleting an existing exercise

- Double-click on the body part containing the exercise to delete.
- Click on the name of the exercise.
- Click on the **Delete** button.

Modifying the exercise picture

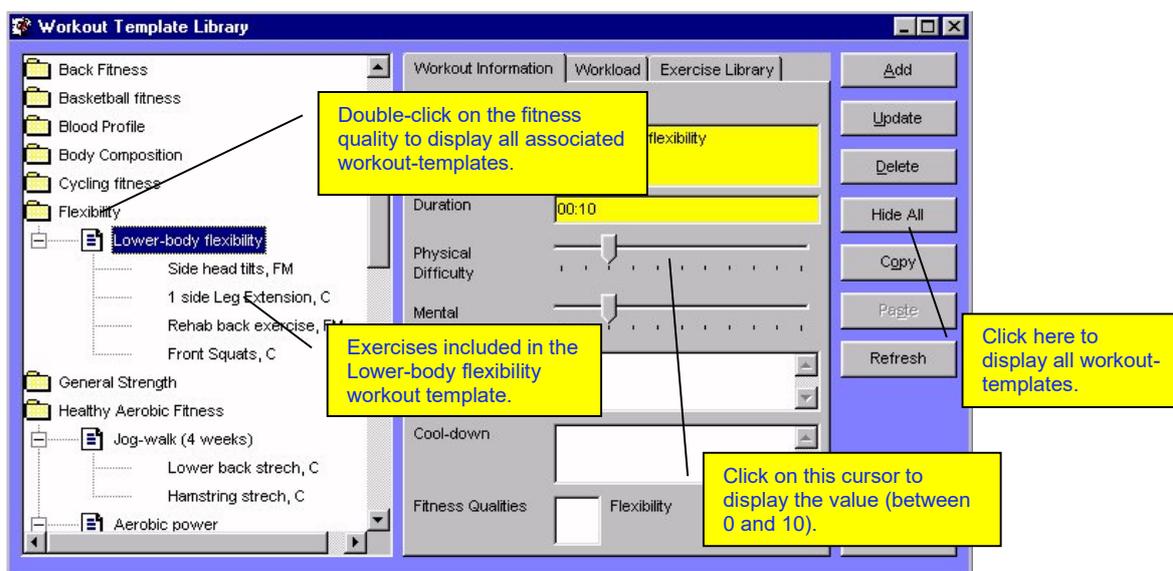
- Click on the name of the exercise to modify.
- Click on the **Picture** button and select a new graphic file in the list.
- Click on the **Open** button to import the new image in the exercise library.



Configuring the workout template library

The **Workout Template Library** contains the workout templates (groups of exercises) available to create your training plans. A workout template contains the exercises that define a training session and the initial parameter of the training load. This section explains how to add, modify and delete workout templates.

To open the **Workout Template Library**, click on the **Settings** button located in the buttons bar of the main window and double-click on the **Workout Template Library** icon.



Workout templates are classified by the fitness quality they solicit. To display the workout templates available for a given fitness quality, double-click on the name of the fitness quality. To display the workout templates available in the entire library, click on the **Display all** button.

Adding a new workout template

- In the list displayed on the left-hand side of the **Workout template library** window, double-click on the name of the fitness quality solicited by the new session. The workout templates and related exercises will automatically be displayed.
- Click on the **Add** button, enter the name of the new workout template (maximum of 50 characters) and click on **Ok**.
- Click on the name of the newly inserted workout template.
- In the **Duration** box, enter the approximate duration of the session (format « hh:min »).
- Click on the **Physical Difficulty** cursor. Slide the cursor until the number representing the physical difficulty of the session is displayed (values from 0 to 10). Release the mouse button.
- Repeat the same operation with the **Mental Difficulty** cursor.
- In the **Warm-up** box, enter the description of the warm-up period recommended for the workout template.
- In the **Cool-down** box, enter the description of the cool-down period recommended for the workout template.
- Click on the **Update** button to save the modifications.



Adding exercises in a workout template

Once the name of the new workout template has been added to the **Workout template library** list, you must add exercises to the template before you can use it in your training plans. To add an exercise in a newly inserted or an already existing workout template, proceed as follow:

- In the **Workout template library** window, click on the **Exercise library** tab. The list displayed represents all exercises present in the exercise library, sorted out by body part. To display the exercises available for each body part, double-click on the name of the body part.
- Click on the name of the exercise to add. If available, the picture of the selected exercise is displayed.
- Press on the **Shift** key of the keyboard and, while pressing on the **Shift** key and on the left button of the mouse, move the cursor over the name of the newly inserted workout template in which you want to add the selected exercise. Release the **Shift** key and the mouse button.
- If you have confirmed the operation, the selected exercise is inserted at the bottom of the list of exercises included in the workout template.
- Repeat the operation for all other exercises to be included in the workout template.

Defining the initial workload of a workout template

When a workout template is inserted in a training plan, FITeval offers you the possibility to generate training sessions in which load parameters (series, repetitions, recuperation, etc.) are automatically calculated in function of your training goals.

FITeval uses the initial workload defined in the workout template as the basis of the evolution workload. Consequently, the initial workload defined in the workout template should be as precise as possible. To insert the initial workload of a workout template, proceed as follow:

- From the **Workout template library** window, double-click on the name of a fitness quality and click on the name of the workout template for which you want to insert the initial workload.
- Click on the **Workload** tab. All exercises included in the workout template will be displayed in a grid.
- Enter the number of sets in the **Sets** column.
- Enter the number of repetitions in the **Reps** column.
- Enter the training intensity in the **Intensity** column.
- Enter the training load in the **Load** column.
- Select the exercise load unit in the **Units** column.
- Enter the exercise execution tempo in the **Tempo** column.
- Enter the resting time between sets in the **Rest/Sets** column.
- Enter the resting time between repetitions in the **Rest/Reps** column.
- Enter the considered level of difficulty of the exercise in the **RPE** column.
- Repeat the above steps for each exercise displayed in the grid.

i *The boxes can be left blank. However, the workload will not be automatically calculated if a parameter is left blank or if a parameter value is zero.*

Deleting an exercise in a workout template

Double-click on the name of the fitness quality containing the exercise. Click on the exercise to delete and click on the **Delete** button.

Deleting a workout template

Double-click on the name of the fitness quality containing the workout template. Click on the name of the workout template to delete and click on the **Delete** button.



Creating a training plan

- To create a new training plan, double-click on the **Clients** icon of the **Clients, Trainers, Groups** tab and click on the name of the client for which you wish to create a new training plan.
- Click on the **Training Planning** icon located on the right-hand side of the main window. Click on the right button of the mouse and select the **New Plan** option. Enter the name of the new training plan (maximum of 50 characters) and click on **Ok**.

Modifying a training plan

- Select a client in the list located on the left-hand side of the main window.
- Double-click on the **Training Planning** icon to display the list of all plans available for the selected client.
- Click on the name of the plan to modify (the name of the selected plan will appear at the bottom of the screen), click on the right button of the mouse and select the **Edit Plan** option. The **Plan Design** window will appear.

ⓘ If the selected client already has one or more plan to his/her name and that the plan(s) include(s) events, the events will be displayed in all other new plans of the client. This way, forgetting events from one plan to another is avoided. In general, it is better to use a single plan per client, since sessions and events can be added indefinitely.

The screenshot shows the 'FITeval 2000 - [Plan Design: New Plan]' window. It features a calendar at the top for December 1999 and January 2000. Below the calendar is a table of sessions. The table has columns for Date, Time, Exercise Name, Sets, Reps, Intensity, Load, Units, Tempo, and Rest/Se. The sessions listed include 'Lower back stretch', 'Hamstring stretch', 'Swimming 200m', 'Standing bend over stretch', 'Arm raises (sb)', and 'ROM_118'. Annotations with yellow boxes point to various parts of the interface: 'Training sessions' points to the calendar grid; 'Event' points to a specific session row; 'Exercises included in the session.' points to the exercise list; 'Load parameters' points to the Intensity, Load, and Units columns; 'Displays the sessions between the two selected dates only.' points to the calendar navigation buttons; and 'Illustration of the selected exercise' points to a small icon of a person performing a stretch.

ⓘ Each colored box corresponds to the fitness quality solicited by a training session (gray being the neutral color). To have a more precise idea of the session content, slowly slide the mouse over each colored box. The date and fitness quality solicited by the session will automatically be displayed. If a date contains more than one session, the fitness qualities solicited by the sessions will be displayed one after the other.



Inserting important events

- In the quarterly calendar, click on the date in which you wish to insert an event. Click on the right button of the mouse and select the **Add Event** option of the **Events** menu.
- In the **Events** window, check the date of the event (the date selected in the calendar is automatically displayed). Assign a level of importance to the event by selecting an option in the **Importance** list. Insert the description of the event in the **Description** box and select the category of the event in the **Categories** list.
- Once the **Importance**, **Description** and **Categories** boxes are filled, click on the **Add** button to insert the event in the plan. Repeat the operation to insert events that may influence training in the course of the year.

① To insert an event that takes place during the course of many days, select the start and end dates of the event before selecting the **Add event(s)** option. Make sure that the dates of the event are displayed in the **From** and **to** boxes of the **Events** window before clicking on the **Add** button.

Inserting training sessions

About the Workout Design window

The **Duration** tab presents the workout templates available for the plan and the boxes in which the range of the plan are inserted. Workout templates are inserted on a weekly basis. The selected workout template is inserted on the day of the week corresponding to the date selected in the **Between** list (the day is displayed as soon as a date is chosen), for the entire period included within the dates displayed in the **Between** and **And** boxes.

The screenshot shows the 'Workout Design' window with the 'Duration' tab selected. The 'Workout Template Library' contains several templates, with 'Aerobic power' selected. Below the library, the 'Create Sessions For' section is set to 'Saturdays' with a date range from 1999-12-04 to 1999-12-25 and a time of 12:00:00 AM. The window includes buttons for 'Insert', 'Cancel', 'Expand All', and 'Close'. Annotations point to various parts of the interface:

- Workout templates and exercises:** Points to the 'Workout Template Library'.
- Day of the week at which the sessions will be inserted:** Points to the 'Saturdays' dropdown.
- Range of automatic generation of sessions:** Points to the date range 'From Saturday 4 December, 1999 to Saturday 25 December, 1999 (3 Weeks)'. The 'Weeks' button is also visible.
- Inserts the sessions in the plan:** Points to the 'Insert' button.
- Click here to insert the number of weeks during which the selected session will be inserted:** Points to the 'Weeks' button.

① If you select 1999-12-04 as the date in the **Between** box and 1999-12-25 as the date in **And** box, the exercises of the selected workout template will be used for the training sessions on every Saturday between December 4, 1999 and December 25, 1999. To insert a single session, select the same date in the **Between** and **And** boxes. Many sessions can be inserted on a single day, provided that the time of the beginning of each session (the hour displayed in the **Time** box) is different.

The **Statistics** tab presents the duration of each workout template selected, the color associated to the fitness quality, as well as the quarterly and total evolution of the workload parameters during the entire period.

The **Graph** tab presents the relative percent of all fitness qualities solicited during the period of time covered by the sessions inserted in the plan. Click on the **Refresh** button to reset the graph values.

Inserting a single session

In the quarterly calendar, click on the date in which you wish to insert the session. Click on the right button of the mouse and select the **Add Session(s)** option of the **Sessions** menu. In the **Workout Design** window, proceed as follow:

- Click on the workout template to insert.
- The date selected in the quarterly calendar is automatically displayed in the **Between** and **And** boxes. Enter the hour at which you wish to begin the session in the **Time** box.
- Click on the **Insert** button to insert the session in the plan. The message « **Session(s) inserted!** » will confirm the operation.
- Exit the **Workout Design** window by clicking on the **Close** button.
- In the **Plan Design** window, click on the **All Sessions** button to refresh the quarterly calendar and the details on the plan grid.

① Double-click on the name of the workout template to display the exercises included in the session.

Automatic insertion of several sessions

To automatically insert several training sessions, click on two dates in the quarterly calendar and click on the right button of the mouse. Select the **Add session(s)** option of the **Sessions** menu. In the **Workout Design** window, proceed as follow:

- Click on the workout template to insert.
- By default, the first and second dates selected in the quarterly calendar are automatically displayed in the **Between** and **And** boxes, respectively. The program will assign the selected workout template the day of the week (Monday, Tuesday, etc.) displayed in bold characters on top of the **Between** box for the entire period included within the two dates.
- Enter the time of the start of the session in the **Time** box.
- Click on the **Workload** tab and define the evolution of each parameter. For example, if every week you want to add 1% to the workload, enter 1 in the **Load** box. If you want to decrease the workload intensity by 1% each week, enter -1 in the **Intensity** box.
- Click on the **Insert** button. The message « **Session(s) inserted!** » will confirm the operation.
- Repeat the above steps to insert other training sessions.
- Exit the **Workout Design** window by clicking on the **Close** button.
- In the **Plan Design** window, click on the **All Sessions** button to refresh the quarterly calendar and the details on the plan grid.

① *Example*, if you select the VMA as the workout template, enter 06-10-1999 and 27-10-1999 in the **Between** and the **And** boxes, respectively, and 18:00:00 in the **Time** box, the plan will insert, four times, the VAM workout template (every Monday between 06-10-1999 and 27-10-1999, at 18h).



① The automatic insertion of workout templates is a simple and rapid way to generate a training plan. However, to obtain a truly customized plan, it is recommended to refine the parameters generated automatically in the grid displayed at the bottom of the quarterly calendar.

Personalizing workload

- Once the training sessions have been inserted in the plan, click on the **All Sessions** button to display all the sessions inserted in the plan or, to display the sessions included within the two selected dates, click on the dates in the quarterly calendar and click on **Show Sessions**. The **Planned Sessions** tab of the **Sessions** frame will display a grid containing the time and date of each session, as well as the name of exercises used and the different parameters of the workload.

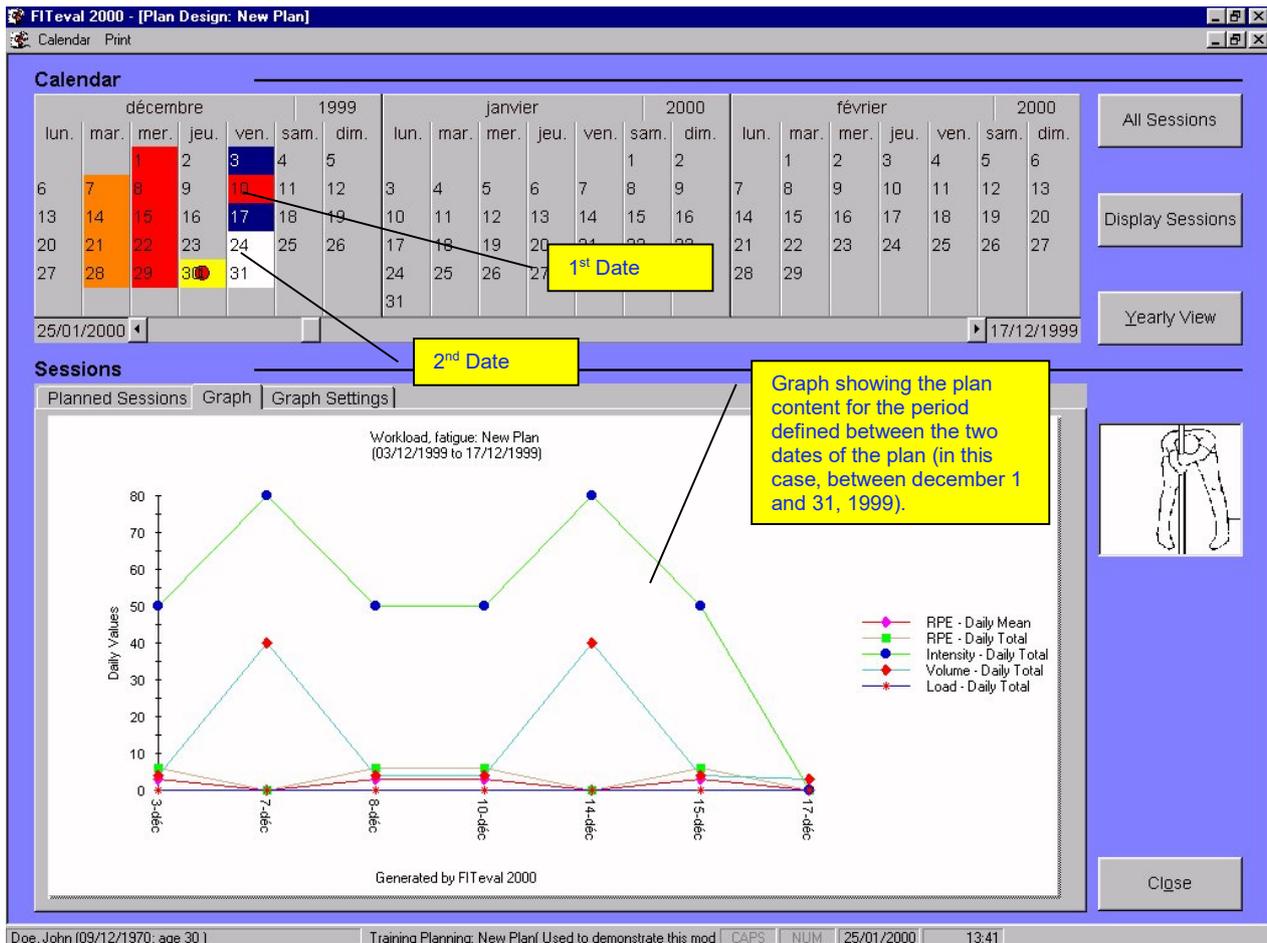
	Date	Time	Exercise Name	Sets	Reps	Intensity	Load	Units	Tempo	Rest/Se
▶	Wed 1-Dec-99	18:00	Lower back strech	4	1	50.0	0.0	%	0	0
			Hamstring strech	4	1	50.0	0.0	%	0	0
	Fri 3-Dec-99	00:00	Hamstring strech	4	1	50.0	0.0	%	0	0
			Lower back strech	4	1	50.0	0.0	%	0	0
	Tue 7-Dec-99		Swimming 200m	4	10	100.0	0	% of	0	0
			Standing bend over strech	4	10	60.0	0	%	0	0
			Arm raises (sb)	4	10	100.0	0	% of	0	0
			ROM_118	4	10	60.0	0	%	0	0
	Wed 8-Dec-99	18:00	Lower back strech	4	1	50.0	0.0	%	0	0
			Hamstring strech	4	1	50.0	0.0	%	0	0
	Fri 10-Dec-99	00:00	Lower back strech	4	1	50.0	0.0	%	0	0
			Hamstring strech	4	1	50.0	0.0	%	0	0
	Tue 14-Dec-99		Swimming 200m	4	10	100.0	0	% of	0	0
			Standing bend over strech	4	10	60.0	0	%	0	0
			Arm raises (sb)	4	10	100.0	0	% of	0	0
			ROM_118	4	10	60.0	0	%	0	0

- The parameters displayed in the grid are those automatically calculated using the initial values of each session and the evolution factors defined in the **Workload** tab. To modify the values displayed in the grid, enter the desired values directly using the keyboard.
- Each exercise displayed in the **Exercise Name** column can be modified at any time. To do so, click on the exercise to modify. The name of the exercise will appear in dark blue and a downward arrow will appear. Click on this arrow and select a new exercise in the list.
- The **RPE** column allows you to register the degree of perceived exertion of each exercise (fill each box) or each session (fill a single box per session). This value can be entered automatically during the insertion of sessions or when a client provides you post-training information.
- To delete an exercise from a training session, click on the square corresponding to the row where the exercise to be deleted is located. The name of the exercise and all its parameters will appear in dark blue. Press on the **DEL** key of the keyboard.



Analyzing the plan content

Once sessions and events have been inserted in the plan, select two dates in the quarterly calendar and click on the **Graph** tab. The graph displayed by default (**Workload, fatigue**) represents the plan workload during the period of time included between the two selected dates. Regular analysis of this graph will allow you to optimize the effects of training according to individual training responses.



It is also possible to display a graph representing the relative percent of each fitness quality solicited during the period of time included within the two selected dates. To do so, open the **Graph Settings** tab, select the **Fitness Qualities** option and click on the **Graph** tab. Choose the desired graph parameter options in the **Graph Settings** tab.

i If you select two dates in the quarterly calendar and click on *Display Sessions* button, the graph will only display the sessions found between the two dates. If you click on *All Sessions*, the graph will display all the sessions of the plan. If there is a large number of sessions in your plan, the graph may be difficult to interpret. In such a case, it is recommended to reduce the analysis period by selecting two dates that define a shorter period and clicking on the *Display Sessions* button.



When a single date is selected, the graph will display the values for that day only. If two dates are selected, the graph will display all values of all sessions found within the two dates selected. If more than two dates are selected in the calendar, access to the Graph tab will be denied.

Visualizing the annual training calendar

To visualize the annual training calendar, click on the **Yearly View** button located to the right of the **Calendar** frame.

Printing the training plan

- In the **Plan Design** window, select the **Reports** option of the **Print** menu.
- In the **Print** window, select **Training Planning** in the **Section** list and **Training Plan** in the **Document** list.
- In the **Range** tab, select the range of the sessions to include.
- Click on the **Preview** or **Print** button.

Printing a training monitoring worksheet

- In the **Plan Design** window, select the **Reports** option of the **Print** menu.
- In the **Print** window, select **Training Planning** in the **Section** list and **Monitoring (short format)** or **Monitoring (detailed format)** in the **Document** list.
- In the **Range** tab, select the range of the sessions to include.
- Click on the **Preview** or **Print** button.

Operations that can be performed on an existing training plan

Modifying an existing plan

- Double-click on the **Clients** icon of the **Clients, Trainers, Groups** tab and click on the name of the client.
- Double-click on the **Training Planning** icon located on the right-hand side of the main window to display the list of all plans available for the selected client.
- Click on the name of the plan to modify and click on the right button of the mouse.
- Select the **Edit Plan** option to display the **Plan Design** window.

Modifying the workload

- In the **Plan Design** window, click on the **All Sessions** button.
- In the grid displayed under the quarterly calendar, modify the desired information.
- The modifications are automatically saved as soon as the cursor is moved to a different row.

Deleting sessions and events

To delete an event, proceed as follow:

- In the quarterly calendar, click on the date of the event to delete.
- Click on the right button of the mouse.
- Select the **Delete Event** option of the **Events** menu.
- The selected event is deleted.

To delete all events found between two dates, proceed as follow:



- In the quarterly calendar, click on the two dates that define the period containing the events to delete.
- Click on the right button of the mouse.
- Select the **Delete Event** option of the **Events** menu.
- All events found between the two selected dates are deleted.

To delete one or more sessions for a given date, proceed as follow:

- In the quarterly calendar, click on the date containing the session(s) to delete.
- Click on the right button of the mouse.
- Select the **Delete Session(s)** option of the **Sessions** menu.
- If more than one session has been planned on a single day, a message allows you to choose the session you wish to delete.
- Click on the **All Sessions** button to refresh the quarterly calendar and the details grid.

To delete all sessions located between two dates, proceed as follow:

- In the quarterly calendar, click on the two dates that define the period containing the sessions to delete.
- Click on the right button of the mouse.
- Select the **Delete Session(s)** option of the **Sessions** menu.
- If more than one session has been planned on a single day, a message allows you to choose the session you wish to delete.
- Click on the **All Sessions** button to refresh the quarterly calendar and the details grid.

To delete all sessions of a plan, proceed as follow:

- Click on the right button of the mouse.
- Select the **Delete All Sessions** option of the **Sessions** menu.
- Click on the **All Sessions** button to refresh the quarterly calendar and the details grid.



Copying a training plan

FITeval offers you the possibility to copy an existing plan and thus spares you the task of repeating the work.

- Double-click on the **Clients** icon of the **Clients, Trainers, Groups** tab and click on the name of the client.
- Double-click on the **Training Planning** icon.
- Click on the name of the plan to copy and click on the right button of the mouse.
- Select the **Copy Plan** option.
- In the **Clients, Trainers, Groups** tab, click on the name of the new client.
- Click on the **Training Planning** icon.
- Click on the right button of the mouse and select the **Copy Plan** option.
- Insert the name of the new plan and click on **Ok**.
- Modify the newly copied plan as desired.

Renaming an existing plan

- Double-click on the **Clients** icon of the **Clients, Trainers, Groups** tab and click on the name of the client.
- Double-click on the **Training Planning** icon.
- Click on the name of the plan to rename and click on the right button of the mouse.
- Select the **Rename Plan** option.
- Insert the new plan name in the **Plan Name** box.
- Insert plan comments in the **Comments** box.
- Click on the **Update** button.
- Click on the **Close** button to exit the **Plan Name** window.

Deleting a training plan

- Double-click on the **Clients** icon of the **Clients, Trainers, Groups** tab and click on the name of the client.
- Double-click on the **Training Planning** icon.
- Click on the name of the plan to delete and click on the right button of the mouse.
- Select the **Delete Plan** option.



CHAPTER 8 • MONITORING/PREVENTION OF OVERTRAINING

The overtraining syndrome is a complex phenomenon characterized by a number of symptoms and anomalies. It is often preceded by the inability of the athlete to recuperate between training sessions.

Overtraining is often seen in athletes using high training loads (high volume and intensity), to which are added everyday stress factors (travel, work, lack of sleep, etc.).

In order to detect the preliminary signs of overtraining, before the athlete falls victim to its harmful effects, a simple, rapid and inexpensive method has been proposed by Carl Foster of the Milwaukee Heart Institute, WI, USA (Foster, C., : Monitoring training in athletes with reference to overtraining syndrome. Med. Sci. Sports Exerc., Vol. 30, No. 7, pp. 1164-1168, 1998).

FITeval integrates the model developed by Dr Foster. This model uses the athlete's subjective perception of the difficulty of the training session, as well as the duration of the session. The perceived difficulty of the session (rate of perceived exertion, RPE) is marked on a scale from 0 to 10 (10 corresponds to an extremely difficult session, 5 to a moderately difficult session, and 0 to an extremely easy session). The duration of the session is marked in minutes (including the warm-up and the cool-down periods). The athlete is asked to mark down the RPE of the training session within the 30 minutes following the end of the session.

When the **Session RPE** (from 0 to 10) is multiplied by the duration of the session, the **LOAD** is obtained. This value expresses the degree of solicitation of the session. The **WEEKLY LOAD** compilation detects training workload modifications and helps to link workload and sport's performance.

- Even though the weekly sum of the **LOAD** plays an important role in detecting overtraining, it is not the only factor involved. The training **MONOTONY** (**LOAD** variation within the weekly period) is also an important factor to be taken in consideration. Indeed, it has been shown that it is easier for an athlete to assimilate a training week where very difficult days are separated by easy days, as opposed to a week where all sessions are moderately difficult.
- Calculation of the **MONOTONY** index is achieved by dividing the **WEEKLY LOAD** by the **STANDARD DEVIATION OF THE WEEKLY LOAD**.
- Since a high **MONOTONY** index, associated with a high **WEEKLY LOAD**, is a precursor to overtraining, the **STRAIN** index has been developed. This index is the result of the **WEEKLY MONOTONY** multiplied by the **WEEKLY LOAD**.

After 4-6 weeks of data compilation, an individual **WEEKLY LOAD** threshold can be identified. The threshold is attained when the training workload starts to cause overtraining symptoms (decrease in performance, bad mood, high level of exertion with moderate loads). A weekly load threshold of 4000 units is frequently found in elite athletes. The optimum range of the monotony index is close to 1-1.5. A weekly strain index of 2000-3000 units is desirable. An individual weekly load, monotony or strain value higher than those presented above may provoke the overtraining syndrome.



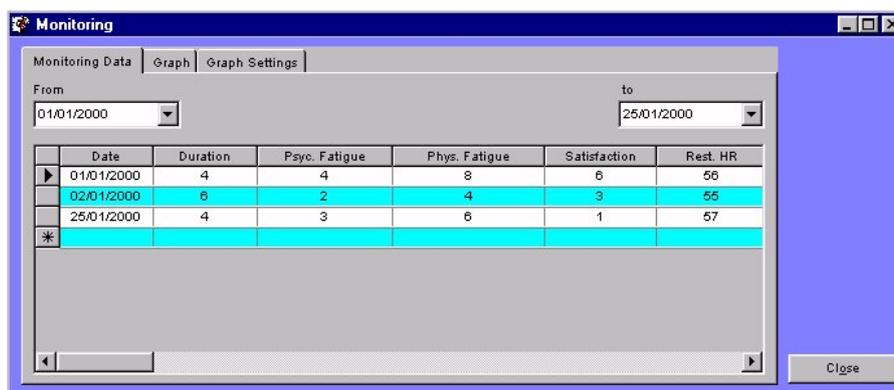
Printing monitoring worksheets

To print the monitoring worksheet containing the dates of a given training plan and thus facilitate the recording of a client's monitoring data, proceed as follow:

- Double-click on the **Clients** icon of the **Clients, Trainers, Groups** tab and click on the name of the client.
- Double-click on the **Training Planning** icon.
- Click on the name of the training plan.
- Click on the **Print** button located in the buttons bar of the main window.
- In the **Print** window, select **Training Planning** in the **Section** list and **Monitoring (short format)** or **Monitoring (detailed format)** in the **Document** list.
- In the **Range** tab, select the range of the sessions to include.
- Click on the **Preview** or **Print** button.

To activate the **Monitoring** module, proceed as follow:

- Double-click on the **Clients** icon of the **Clients, Trainers, Groups** tab and click on the name of the client.
- Click on the **Monitoring** button located in the buttons bar of the main window or, click on the **Monitoring** icon located on the right-hand side of the main window, click on the right button of the mouse and select the **Activate** option. By default, FITeval displays all recordings between January 1st of the selected year and the date of the present day. To modify the recordings displayed, select two different dates in the **From** and **to** boxes.



The screenshot shows the 'Monitoring' window with a table of training data. The table has columns for Date, Duration, Psych. Fatigue, Phys. Fatigue, Satisfaction, and Rest. HR. The data is as follows:

Date	Duration	Psych. Fatigue	Phys. Fatigue	Satisfaction	Rest. HR
01/01/2000	4	4	8	6	56
02/01/2000	6	2	4	3	55
25/01/2000	4	3	6	1	57
*					

Registering data

- Place the cursor at the bottom of the list. In the **Duration** column, click in the empty cell and enter the value corresponding to the duration of the training session.
- In the **Psyc. Fatigue** column, enter the value corresponding to psychological fatigue of the training session.
- In the **Phys. Fatigue** column, enter the value corresponding to physical fatigue of the training session.
- In the **Satisfaction** column, enter the value corresponding to the level of satisfaction of the training session.
- In the **Rest. HR** column, enter the value corresponding to the resting heart rate.
- If available, enter the client's comments towards the training session.
- Click in another row to save the modifications.
- By default, the date of the day is displayed at the bottom of the **Date** column, but can be modified at any time.



Updating data

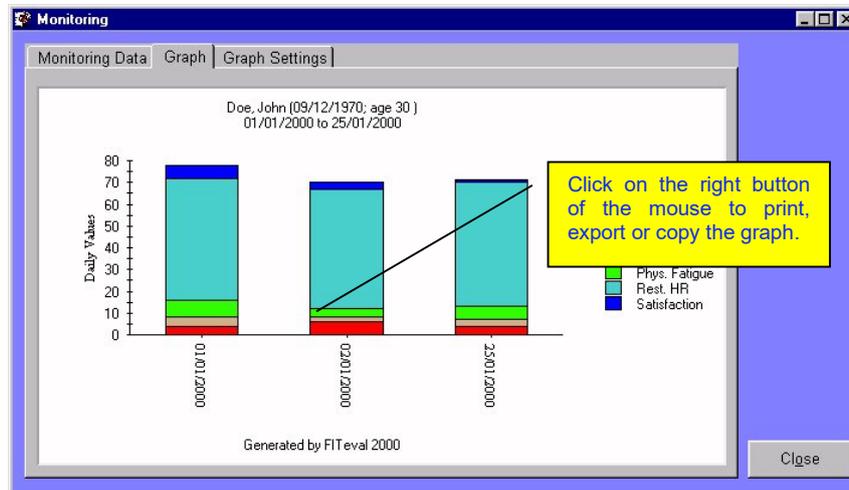
- Click on the row containing the data to modify.
- Modify the information in the different column.
- Click in another row to save the modifications.

Deleting a recording

To delete a recording, click on the grid row separator  of the row containing the data to be deleted and click on the **DEL** key of the keyboard.

Displaying and configuring the monitoring graph

To display the graph representing the monitoring data found in the grids, click on the **Graph** tab of the **Monitoring** window. The graph shows the relative level of each parameter included within the dates defined in the **From** and **to** boxes of the **Monitoring Data** tab.



To select a different graph type, click on the **Graph Settings** tab and select a different type (the **Lign** type is displayed by default).

To display or hide a parameter, select or deselect the desired option in the **Display** frame of the **Graph Settings** tab.

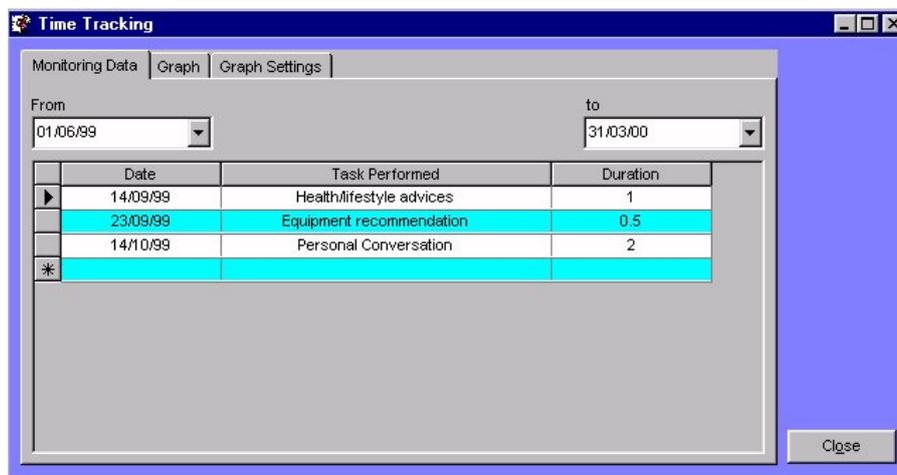
To export, print or copy the displayed graph, click on the graph using the right button of the mouse and select the desired option.



CHAPTER 9 • TIME TRACKING

The time tracking module allows you keep track of the amount of time you dedicate to each task or client. This module also allows you to generate a variety of documents for the financial management of your professional practice.

- Double-click on the **Clients** icon of the **Clients, Trainers, Groups** tab and click on the name of the client.
- Click on the **Time Tracking** button located in the buttons bar of the main window or, click on the **Time Tracking** icon located on the right-hand side of the main window, click on the right button of the mouse and select the **Activate** option. By default, FITeval displays all recordings between January 1st of the selected year and the date of the present day. To modify the displayed recordings, select two different dates in the **From** and **to** boxes.



Adding a new recording

- In the **Task Performed** column, click in the empty cell. Click on the downward arrow that appears and select an option in the list.
- Enter a value corresponding to the time dedicated to the selected task (in hours) in the **Time Spent** column (1=1 hour; 0.5=30 minutes).
- Click in another row to save the modifications.
- By default, the date of the day is displayed at the bottom of the **Date** column, but can be modified at any time.

Modifying a recording

- In the **Task Performed** column, select an option in the list displayed.
- Enter a value corresponding to the time dedicated to the selected task (in hours) in the **Time Spent** column (1=1 hour; 0.5=30 minutes).
- Click in another row to save the modifications.

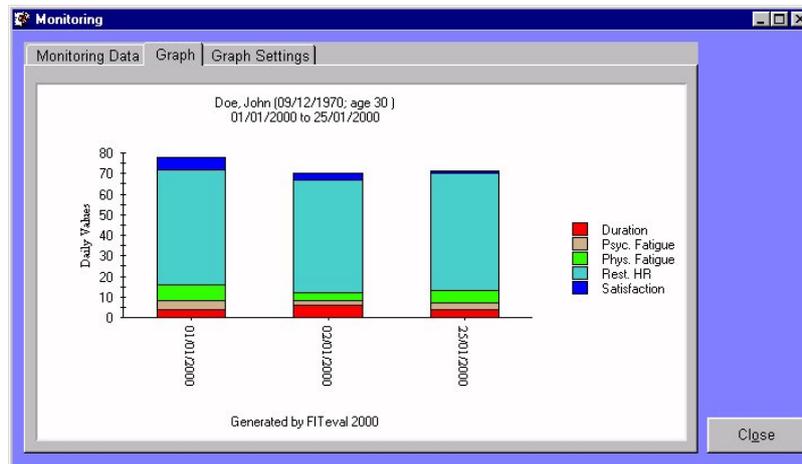
Deleting a recording

To delete a recording, click on the grid row separator  of the row containing the data to be deleted and click on the **DEL** key of the keyboard.



Displaying and configuring the time tracking graph

To display the graph representing the time tracking data found in the grids, click on the **Graph** tab of the **Time Tracking** window. The graph shows the percent of time dedicated to each task included within the dates defined in the **From** and **to** boxes of the **Monitoring Data** tab.



To select a different graph type, click on the **Graph Settings** tab and select a different type (the **Line** type is displayed by default).

To display or hide a parameter, select or deselect the desired option in the **Display** frame of the **Graph Settings** tab.

To export, print or copy the displayed graph, click on the graph using the right button of the mouse and select the desired option.



CHAPTER 10 • PRINTING DOCUMENTS

FITeval allows you to visualize, print and export a variety of documents. To visualize, print or export a document, follow the instructions found in the « Printing preview procedures » of the following table. To obtain more information about each document, click on the **Print** button located in the buttons bar of the main window and click on the **Information** tab of the **Print** window.

Print preview procedures

Section	Document	Print Preview Procedures
Assessment	Test library	Click the Print button located in the buttons bar of the main window, select the report's name in the Document list and click on the Preview button.
	Group fitness comparison	In the main window, click on a group name; select a date of assessment in the right panel. Click on the Print button. Select two dates in the Range tab, select a group name in the Groups tab and click on the Preview button.
	Individual/group fitness profile	In the main window, click on a client name; select a date of assessment in the right panel. Click on the Print button. Select two dates in the Range tab, select a group name in the Groups tab and click on the Preview button.
	H.R., Lactate, RPE Curve	In the main window, click on a client name; select a date of assessment and click on a multistage test name in the right panel. Click on the Print button and click on the Preview button.
	Worksheet (test batteries)	Click on the Print button located in the buttons bar of the main window, select the report's name in the Document list and click on the Preview button.
	Worksheet (questionnaire)	Click on the Print button located in the buttons bar of the main window, select the report's name in the Document list and click on the Preview button.
	Worksheet (multistage tests)	Click on the Print button located in the buttons bar of the main window, select the report's name in the Document list and click on the Preview button.
	Training intensities (30-130%)	In the main window, click on a client name; select a date of assessment and click on a test name in the right panel. Click on the Print button. Select two dates in the Range tab and click on the Preview button.
	Training intensities (50-100%)	In the main window, click on a client name; select a date of assessment and click on a test name in the right panel. Click on the Print button. Select two dates in the Range tab and click on the Preview button.
	Norms library	Click on the Print button located in the buttons bar of the main window, select the report name in the Document list and click on the Preview button.
	Measurements per test	Click the Print button located in the buttons bar of the main window, select the report name in the Document list and click on the Preview button.
	Assessment goals	In the main window, click on a client name; select a date of assessment in the right panel and click on the Print button. Click on the Preview button.
	Group fitness profile (with graph)	In the main window, click on a group name; select a date of assessment in the right panel and click on the Print button. Select two dates in the Range tab and click on the Preview button.
	Group fitness profile (without graph)	In the main window, click on a group name; select a date of assessment in the right panel and click on the Print button. Select two dates in the Range tab and click on the Preview button.
	Individual fitness profile (long)	In the main window, click on a client name; select a date of assessment in the right panel and click on the Print button. Select two in the Range tab, select a population in the Populations tab and click on the Preview button.
	Individual fitness profile (short)	In the main window, click on a client name; select a date of assessment in the right panel and click on the Print button. Select two dates in the Range tab, select a population in the Populations tab and click on the Preview button.
	Individual progress (1 test, raw data)	In the main window, click on a client name; select a date of assessment and click on a test name in the right panel. Click on the Print button. Select two dates in the Range tab and click on the Preview button.
	Individual progress (2 tests, raw data)	In the main window, click on a client name; select a date of assessment and click on a test name in the right panel. Click on the Print button. Select two dates in the Range tab, select a test name in the Tests tab and click on the Preview button.
	Individual progress (norms)	In the main window, click on a client name; select a date of assessment in the right panel and click on the Print button. Select two dates in the Range tab, select a population in the Populations tab and click on the Preview button.
	Progression F.C., lactate, RPE	In the main window, click on a client name; select a date of assessment and click on a multistage test name in the right panel. Click on the Print button. Select two dates in the Range tab and click on the Preview button.



	Individual fitness summary	In the main window, click on a client name; select a date of assessment in the right panel and click on the Print button. Select two dates in the Range tab, select a population in the Populations tab and click on the Preview button.
	Result table (group)	In the main window, click on a group name; select a date of assessment in the right panel and click on the Print button. Select two dates in the Range tab and click on the Preview button.
	Result table (client)	In the main window, click on a client name; select a date of assessment in the right panel and click on the Print button. Select two dates in the Range tab and click on the Preview button.
	PAR-Q	In the main window, select a client name and click on the Print button. Select the report name and click on the Preview button.
Planning	Monthly workload	In the main window, click on a client or a group name; select a training plan in the right panel and click on the Print button. Select two dates in the Range tab and click on the Preview button.
	Weekly workload (per exercise)	In the main window, click on a client or a group name; select a training plan in the right panel and click on the Print button. Select two dates in the Range tab and click on the Preview button.
	Events and participants	In the main window, click on a client or a group name; select a training plan in the right panel and click on the Print button. Select two dates in the Range tab and click on the Preview button.
	Individual events	In the main window, click on a client or a group name; select a training plan in the right panel and click on the Print button. Select two dates in the Range tab and click on the Preview button.
	Exercise sheet (8 sessions)	Click on the Print button located in the buttons bar of the main window, select the report name in the Document list and click on the Preview button.
	Exercise sheet (8 weeks)	Click on the Print button located in the buttons bar of the main window, select the report name in the Document list and click on the Preview button.
	Exercise sheet (empty boxes)	Click on the Print button located in the buttons bar of the main window, select the report name in the Document list and click on the Preview button.
	Workout template	Click on the Print button located in the buttons bar of the main window, select the report name in the Document list and click on the Preview button.
	Group training schedule	In the main window, click on a client or a group name; select a training plan in the right panel and click on the Print button. Select two dates in the Range tab and click on the Preview button.
	Individual training schedule	In the main window, click on a client or a group name; select a training plan in the right panel and click on the Print button. Select two dates in the Range tab and click on the Preview button.
	Training plan	In the main window, click on a client or a group name; select a training plan in the right panel and click on the Print button. Select two dates in the Range tab and click on the Preview button.
	Monitoring (short)	In the main window, click on a client or a group name; select a training plan in the right panel and click on the Print button. Select two dates in the Range tab and click on the Preview button.
	Monitoring (long)	In the main window, click on a client or a group name; select a training plan in the right panel and click on the Print button. Select two dates in the Range tab and click on the Preview button.
Productivity	Exercise library	Click on the Print button located in the buttons bar of the main window, select the report name in the Document list and click on the Preview button.
	Clients by activity/sport	Click on the Print button located in the buttons bar of the main window, select the report name in the Document list and click on the Preview button.
	Mailing labels (trainers)	Click on the Print button located in the buttons bar of the main window, select the report name in the Document list and click on the Preview button.
	Mailing labels (clients)	Click on the Print button located in the buttons bar of the main window, select the report name in the Document list and click on the Preview button.
	Clients by sport/activity	Click on the Print button located in the buttons bar of the main window, select the report name in the Document list and click on the Preview button.
	List of trainers	Click on the Print button located in the buttons bar of the main window, select the report name in the Document list and click on the Preview button.
	Medical profile by activity	Click on the Print button located in the buttons bar of the main window, select the report name in the Document list and click on the Preview button.
	Individual medical profile	In the main window, click on a client name; click on the Print button. Click on the Preview button.
	Clients by preferred activities	Click on the Print button located in the buttons bar of the main window, select the report name in the Document list and click on the Preview button.
	Clients by dislikes activities	Click on the Print button located in the buttons bar of the main window, select the report name in the Document list and click on the Preview button.

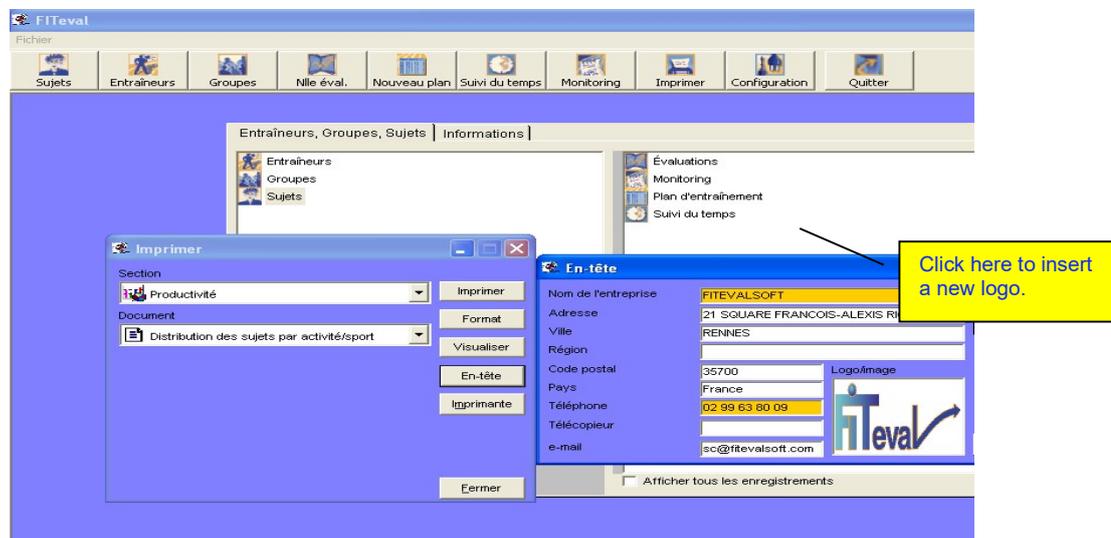


	Clients by trainer	Click the Print button located in the buttons bar of the main window, select the report name in the Document list and click on the Preview button.
	Group details	In the main window, click on a group name; click on the Print button. Select two dates in the Range tab and click on the Preview button.
	Clients by training goal	Click on the Print button located in the buttons bar of the main window, select the report name in the Document list and click on the Preview button.
Monitoring	Monitoring (statistics)	In the main window, click on a client or a group name; click on the Monitoring icon and click on the Print button. Select two dates in the Range tab and click on the Preview button.
	Monitoring (listing)	In the main window, click on a client or group name; click on the Monitoring icon and click on the Print button. Select two dates in the Range tab and click on the Preview button.
Time Tracking	Time spent per group	Click on the Print button located in the buttons bar of the main window, select the report name in the Document list and click on the Preview button.
	Time spent per period	Click the Print button located in the buttons bar of the main window, select the report name in the Document list and click on the Preview button.
	Time spent per client	Click the Print button located in the buttons bar of the main window, select the report name in the Document list and click on the Preview button.
	Time spent per task	Click the Print button located in the buttons bar of the main window, select the report name in the Document list and click on the Preview button.

Modifying document headers

To modify the headers that appear on a document, proceed as follow:

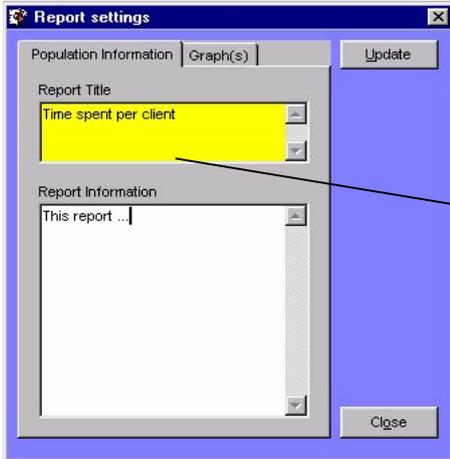
- In the **Print** window, click on the **Header** button.
- In the **Header** window, modify the desired values.
- To modify the logo printed on documents, click on the **Picture** button and select a new graphic file in the list.
- Click on the **Open** button to import the new logo.



Modifying document titles

To modify the title that appears on a document, proceed as follow:

- In the **Print** window, select a document in the **Document** list.
- Click on the **Format** button.
- In the **Report settings** window, modify the desired values.
- Click on the **Update** button to save the modifications.

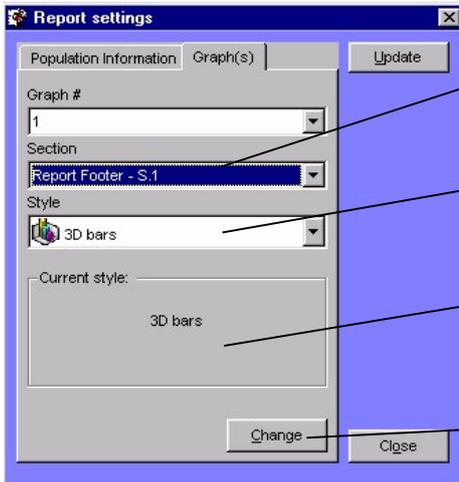


Title appearing on the printed document.

Modifying document graphs

To modify the type of graph printed on documents, proceed as follow:

- In the **Print** window, select a document in the **Document** list.
- Click on the **Format** button.
- In the **Report settings** window, click on the **Graph(s)** tab.
- In the **Graph #** list, select the graph number (1 for a document containing a single graph).



Section of document where graph is located.

List of available types of graphs.

Type of graph used in the selected section (if a graph is available).

Click here to modify the style of graph.

- In the **Section** list, select the document section containing the graph or go through the options of the list until the type of graph desired is displayed in the **Current Type** frame.
- Select a new graph style in the **Type** list and click on the **Update** button.
- Click on the **Close** button to exit the **Report settings** window.

① The modifications done on the graph style of a document are always temporary.



CHAPTER 11 • GENERAL CONFIGURATION

This chapter presents the different operations that will allow you to adapt FITeval to your working needs. This chapter presents the steps to follow to modify the color of windows, change the size of icons, activate the security system and modify the access path to databases files.

Colors and icons

FITeval allows you to modify the size of icons displayed in the lists, the screen color and the color used to designate the boxes that must absolutely be filled.

Icon size

To modify the size of icons used by FITeval, proceed as follow:

- Click on the **Settings** button located in the buttons bar of the main window.
- Double-click on the **Colors & Icon Size** icon located in the **Settings** window.
- In the **Icon Size** frame, enter the new values in the **Icon Height** and **Icon Width** boxes.
- Click on the **Update** button.
- Click on the **Close** button to exit **Colors & Icon Size** window.
- Restart FITeval.

① *By default, the icon size is 20x20 pixels.*

Background color

To modify the background color of FITeval's screen, proceed as follow:

- Click on the **Settings** button located in the buttons bar of the main window
- Double-click on the **Colors & Icon Size** icon located in the **Settings** window.
- In the **Windows Background** frame, click on the **Update** button, select a new color in the list displayed and click on **Ok**.
- Click on the **Close** button to exit **Colors & Icon Size** window.
- Restart FITeval.

① *By default, the color used is blue.*

Color of boxes to absolutely fill

To modify the color of boxes that must absolutely be filled, proceed as follow:

- Click on the **Settings** button located in the buttons bar of the main window
- Double-click on the **Colors & Icon Size** icon located in the **Settings** window.
- In the **Mandatory boxes** frame, click on the **Update** button, select a new color in the list displayed and click on **Ok**.
- Click on the **Close** button to exit **Colors & Icon Size** window.
- Restart FITeval.

① *By default, the color used is yellow.*

Security

FITeval's security system allows you to limit access of the software to authorized users. When the mode of protection is activated, a window asking the trainer to enter his name and password is displayed each time the software is started.

The name and password entered must, of course, correspond to those found in the **Trainer** window. Errors in either the name or the password will be rejected and access to the software will be denied.

Activating the security system

To activate FITeval's security system, proceed as follows:

- Click on the **Settings** button located in the buttons bar of the main window.
- Double-click on the **Security** icon of the **Configuration** window.
- In the **Security** window, select the **Activate** option and click on the **Update** button.
- Click on the **Close** button to exit the **Security** window.
- Restart FITeval.

Inactivating the security system

To deactivate FITeval's security system, proceed as follows:

- Click on the **Settings** button located in the buttons bar of the main window.
- Double-click on the **Security** icon of the **Configuration** window.
- In the **Security** window, select the **Inactivate** option and click on the **Update** button.
- Click on the **Close** button to exit the **Security** window.
- Restart FITeval.

Access to databases

The databases used by FITeval are the following:

File	Information
Training.mdb	Contains the information relative to training plans, sessions, exercises
Settings.mdb	Contains the information relative to clients, trainers, groups
Testing.mdb	Contains the information relative to tests, norms, fitness qualities, test results
Tracking.mdb	Contains the information relative to monitoring
Reports.mdb	Contains the information relative to documents generated by FITeval

It is highly recommended to save these five files on a regular basis

By default, FITeval copies the databases in the « C: \Program Files\FITeval \En » folder. If you wish to share the information found in these files with other users, you must:

- Copy the files (Training.mdb, Settings.mdb, Testing.mdb, Tracking.mdb, Reports.mdb) on a computer accessible by all users (a network server, for example).
- Modify the access path of these files on each computer, except the server.

① *Using FITeval on more than 2 computers requires the purchase of an additional user's license.*



Modifying the access path

To modify the access path proposed by default, proceed as follow:

- Click on the **Settings** button located in the buttons bar of the main window.
- Double-click on the **File Location** icon of the **Settings** window.
- In the **File Location** window, click on the name of the file for which you wish to modify the access path and click on the **Update** button.
- Select the new access path and click on the **Open** button.
- Click on the **Close** button to exit the **File Location** window.
- Restart FITeval.

Restoring the initial access path

To restore the access path proposed during the installation of FITeval , proceed as follow:

- Click on the **Settings** button located in the buttons bar of the main window.
- Double-click on the **File Location** icon of the **Settings** window.
- In the **File Location** window, click on the **Default** button.
- Click on the **Close** button to exit the **File Location** window.
- Restart FITeval.



CHAPTER 12 • COMPLEMENTARY TOOLS

Conversion tool

The conversion tool offered by FITeval brings more than 200 conversions at your fingertips. For example, you can rapidly transform kilograms (kg) in pounds (lb.); meters per second (m/s) in kilometers per hour (km/h) or convert VO₂max (expressed in mL/kg/min) in metabolic units (METs).

Using the conversion tool

- Select the **Conversions** option from the **Tools** menu located in the main window.
- In the **Conversion Tool** window, select a **Type of conversion** in the list.
- Select the conversion to carry out in the **Name of Conversion** list. The conversion factor used is automatically displayed at the bottom of the list.
- Insert the value you wish to convert in the **Value to be converted** box.
- Click the **Calculate** button to display the final result.

Copying the conversion result

- Once the result has been calculated, click on the **Copy** button or select the result and press on the **CTRL+C** keys.
- To paste the result in any Windows application, use the **CTRL+V** key combination.

1RM Calculator

The **1RM Calculator** is the perfect tool to estimate, from sub-maximum loads, the maximum resistance that can be displaced (moved) by an athlete during the execution of a given strength exercise. The 1RM calculator uses the most widely used equations and enables you to insert your own.

Predicting 1RM from sub-maximum loads

- Select the **1RM Calculator** option from the **Tools** menu of the main window.
- Insert the load used during the test in the **Resistance** box.
- Insert the number of repetitions in the **Reps** box.
- Select the formula to use to calculate the result in the **Available Formulas** list. Two asterisks (**) follow the recommended method.

Copying the calculated result

- Once the result calculated, click on the **Copy** button or select the result and press on the **CTRL+C** keys.
- To paste the result in any Windows application, use the **CTRL+V** combination.

Modifying a 1RM formula

- Click on the **Update** button.
- Select the formula you want to modify by clicking on its author's name in the **Author** column.
- Type the modifications in the **Formula** column by using the variables and operators presented below.



Adding your own formula

- Click on the **Update** button.
- Enter your name in the **Author** column.
- Enter the formula in the **Formula** column using the variables and operators presented below.
- Enter the formula reference in the **Reference** box.

Variables and operators used by the 1RM calculator.

- WT = resistance used for the test
- RP = number of repetitions performed during the test
- E = exponentiation sign - example: $(2+1)E2=300$
- S= Square root sign - example: $S9=3$
- ^ = Power sign - example: $(2+1)^3=9$
- * = Multiplication operator - example: $3*3=9$
- - = Subtraction operator - example: $10-1=9$
- + = Addition operator - example: $0.001+10= 10.001$
- / = Division operator - example: $9/3=3$
- Numeric values can be inserted as usual - example: $1+2.5=3.5$
- Numbers inferior to zero should be inserted between brackets and preceded by a minus sign. Example: $(-1)+10=9$.

Example:

A client has lifted 3 times a 100kg resistance. You wish to predict the maximum resistance that he/she would be able to displace during a single repetition (1 RM), using the O'Conner equation " $WT*(1+0.025*RP)$ ". The 1 RM predicted is:

Variable WT=100

Variable RP=3

Constants: 1; 0,025

$1RM=100*(1+0.025*3)$

$1RM=100*(1+0.075)$

$1RM=107.5kg$



CHAPTER 13 • TECHNICAL ASSISTANCE

This chapter presents the most commonly encountered problems when using FITeval, as well as the different ways you can obtain technical assistance.

Common problems

If you are having problems compacting or repairing databases

- A database will not compact if you don't have enough storage space on your disk. Delete unnecessary files on your hard disk and try again.

If your screen seems too small to display the complete window

FITeval is a program that runs in the super VGA mode (800x600). In order to verify whether your screen is configured in this mode, proceed as follow:

- Quit FITeval and all other active applications.
- Click on the **Start** button located in the bottom left-hand corner of Windows. Select the **Parameters** menu and the **Control Panel** button.
- Double-click on the **Display** icon, select the **Configuration** option and verify the value displayed in the **Desktop area**. If the value is NOT **800x600**, slide the cursor to the left or to the right until the 800x600 value is displayed. Click on **Apply** to save the new configuration (your screen will be re-dimensioned).

If your system runs slowly or if you having trouble viewing documents

- Try freeing more memory by closing one or more Windows applications, or add more RAM to your computer.

If your printer generates the message "not enough memory to print the document"

- Try to reduce your printer's printing resolution (for example, from 300dpi to 180dpi). The best way to resolve this problem, however, is to increase the memory of your printer as specified in you printer's user's guide.

If the error « Error loading object » occurs

- This error occurs when the RAM of your computer is saturated. If this error occurs, verify whether your computer has a minimum of 32Mb of RAM.



Contacting the technical support service

FITeval offers a technical support service, free of charge during the 30 days that follow your license purchase. After this date, technical support is subject to Advanced Fitness Designs Inc then-current prices and conditions. Prices and conditions are subject to change without notice.

When you contact FITeval for technical assistance, be prepared to give the following information (if you contact FITeval by fax or e-mail, please attach the requested information to your message):

- The software's date of compilation. Select the **About FITeval** option of the **About** menu located in the main window.
- The type of computer you are using, its microprocessor and installed RAM.
- The name and version of your operating system.
- A precise description of the message that appears on your screen.
- The place where the error has occurred and a description of how you tried to solve the problem.

① *Thank you for going through these verifications before contacting the technical support service. Your call is of the utmost importance. The more complete the information you provide us, the more a technician will be able to help rapidly.*

To contact the technical service, please use one of the following options:

- Email : st@fitevalsoft.com
- Phone France : +33 (0)2 99 638 009
- Regular mail: **FITEvalsoft/Jean-Jacques Rouillard, 41 Rue Albert De Mun, 35000 Rennes – France**

Product updates

FITeval updates can be downloaded directly, and free of charge, from FITeval. To download the latest version, select the **Updates** option from the **About** menu located in the main window. It is recommended to download updates of the software on a regular basis and to use the latest update before contacting the technical support service.

Product replacement policy

If the CDs or documentation are defective, please contact FITEVAL, within 30 days of the purchase date. The defective material will be replaced, free of charge, as quickly as possible.



CHAPTER 14 • ADDITIONAL INFORMATION

English

- **ACSM'S Guidelines for Exercise Testing and Prescription**, 9th ed., Lea & Febiger, Philadelphia, 2013
- **ACSM'S Resource manual for Guidelines for Exercise Testing and Prescription**. 7th ed., Lea & Febiger, Philadelphia, 2013
- Brendon M Downey and Will G Hopkins: Nutritional Intake Predicts Performance in an Ironman Triathlon, *Sportscience* 5(1), sports.org/jour/0101/bmd.htm, 2001
- Callister R., Callister RJ., Fleck SJ., Dudley GA. : **Physiological and performance responses to overtraining in elite judo athletes**; *Med Sci Sport Exerc*, 1990 Dec, 22 :6, 816-24
- Canadian Society for Exercise Physiology: **Certified Personal Trainer Certification Guide**, 2013. ISBN 978-1-896900-34-8
- Canadian Society for Exercise Physiology: **Certified Exercise Physiologist Certification Guide**. Second Edition, 2014. ISBN 978-1-896900-36-0
- Peter J. Maud, Carl Foster: **Physiological Assessment of Human Fitness**, Human Kinetics, 1995
- Dennis Flood, **Practical Math for Health Fitness Professionals**, Human Kinetics, 1996
- Foster C., **Physiological Perspectives in Speed Skating**, 1996
- Foster C., **Monitoring training in athletes with reference to overtraining syndrome**, *Med Sci Sport Exerc*, Vol. 30, No 7, pp. 1164-1168, 1998
- Foster, C., J.A. Florhaug, J. Franklin, L. Gottschall, L.A. Hrovant, S. Parker, P. Doleshal, C. Dodge: **A new approach to monitoring exercise training**. *J. Strength Cond. Res.* 15(1): 109-115. 2001
- Fry RW, Morton AR, Keast, D: **Overtraining in athletes**. An Update; *Sports Med.* 1991 Jul;12(1):32-65
- Fry RW; Morton AR; Garcia Webb P; Crawford GP; Keast D: **Biological responses to overload training in endurance sports**, *Eur J Appl Physiol*, 1992, 64:4, 335-44
- Gabriel HH; Urhausen A; Valet G; Heidelbach U; Kindermann W : Overtraining and immune system: a prospective longitudinal study in endurance athletes, *Med Sci Sports Exerc*, 1998 Jul, 30:7, 1151-7
- Gastmann U; Petersen KG; Böcker J; Lehmann M : **Monitoring intensive endurance training at moderate energetic demands using resting laboratory markers failed to recognize an early overtraining stage**, *J Sports Med Phys Fitness*, 1998 Sep, 38:3, 188-93
- Haff, G. Gregory. 2001: ROUNDTABLE: Roundtable Discussion: Low Carbohydrate Diets and Anaerobic Athletes. *Strength and Conditioning Journal*: Vol. 23, No. 3, 42-61
- Hartmann U; Mester J : **Training and overtraining markers in selected sport events.**; *Med Sci Sports Exerc* 2000 Jan;32(1):209-15
- Hedelin R; Kentta G; Wiklund U; Bjerle P; Henriksson-Larsen K : **Short-term overtraining: effects on performance, circulatory responses, and heart rate variability**; *Med Sci Sports Exerc* 2000 Aug;32(8):1480-4
- High Performance Cycling; A. E. Jeudenkrup, Human Kinetics, 2002
- Hoffman J., Kaminsky M.,: **Use of performance testing for monitoring overtraining in elite youth basketball players**; *NSCA Journal*, 22:6, 54-62, 2000
- Hoogeveen AR; Zonderland ML : Relationships between testosterone, cortisol and performance in professional cyclists. *Int J Sports Med*, 1996 Aug, 17:6, 423-8
- Hooper SL, Mackinnon LT, Howard A, Gordon RD, Bachman AW, : Markers for monitoring overtraining and recovery; *Med Sci Sports Exerc*, 1995 Jan, 27 :1, 106-12
- John Hawley and Louise burke, **Peak Performance**, Allen & Unwin, Australia, 1998
- Kernan, Ed., D. : **The 24 Consensus Principles of Athletic Training and Conditioning**. Track Coach, 4720-4722, 1998
- McKenzie DC: Markers of excessive exercise, *Can J Appl Physiol*, 1999 Feb, 24:1, 66-73



- MacKinnon LS, Hooper S : Overtraining and recovery in elite athletes. Final report submitted to the Australian Sport Council, 1991
- MacKinnon LT (a): Special feature for the Olympics: effects of exercise on the immune system: overtraining effects on immunity and performance in athletes; *Immunol Cell Biol* 2000 Oct;78(5):502-9
- Mackinnon LT (b) : Chronic exercise training effects on immune function; *Med Sci Sports Exerc* 2000 Jul;32(7 Suppl):S369-76
- Paula J. Robson-Ansley, Michael Gleeson & Les Ansley: Fatigue management in the preparation of Olympic athletes, *Journal of Sports Sciences*, 27:13, 1409-1420, 2009
- Pen LJ; Barrett RS; Neal RJ; Steele JR : An injury profile of elite ironman competitors. *Aust J Sci Med Sport*, 1996 Mar, 28:1, 7-11
- Shephard RJ; Shek PN : Acute and chronic over-exertion: do depressed immune responses provide useful markers? *Int J Sports Med*, 1998 Apr, 19:3, 159-71
- Siff, M. and Y.V. Verchoshansky. **Supertraining**, 2nd edition, 1996
- Tudor O. Bompá, Lorenzo Cornacchia: **Serious Strength Training**, Human Kinetics, 1998
- Urhausen A, Gabriel H, Kindermann W.: Blood hormones as markers of training stress and overtraining, *Sports Med*, 1995 Oct, 20:4, 251-76
- UUSITALO A.-L ; UUSITALO A.-J ; RUSKO H.-K - **Heart rate and blood pressure variability during heavy training and overtraining in the female athlete** *Int J Sports Med* 2000 Jan ; 21 (1) : 45-53
- Verde T; Thomas S; Shephard RJ : **Potential markers of heavy training in highly trained distance runners**, *Br J Sports Med*, 1992 Sep, 26:3, 167-75
- Vladimir Zatsiorsky, **Science and Practice of Strength Conditioning**, Human Kinetics, 1997
- ZAVORSKY G.-S. Evidence and possible mechanisms of altered maximum heart rate with endurance training and tapering *Sports Med* 2000 Jan;29(1):13-26
- MC KENZIE D.-C. Markers of excessive exercise *Can J Appl Physiol*, 1999 Feb, 24 : 1, 66-73

Internet

- Canadian Society for Exercise Physiology : <http://www.csep.ca>
- American College of Sports Medicine : <http://www.acsm.org>
- National Strength & Conditioning Association : <http://www.nasca-lift.org>
- Internet Society for Sport Science : <http://www.sportsci.org>

French

- Cometti, G. **Les méthodes modernes de musculation**, Université de Bourgogne, UFR-STAPS Dijon, 1988
- Grappe Frédéric « **Cyclisme et Optimisation de la Performance** » (F. Grappe, Ed. DeBoeck, Paris, 2009)

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