

SOP for Managing Placeholders:

1 Goal

This document describes how to create and manage placeholders in the case of missing follow up visits in longitudinal studies.

In order to save some post-hoc data table manipulations, it may be useful to insert dummy placeholders in UPAT_LIST output, filled with X's in place of actual numbers.

For the example, let's assume that patient #231 – John Smith is enrolled in a study where annual visits are planned over 3 years. For this study, Mr Smith only came for visit #1 and #3, missing visit #2.

2 Personnel

XtremeCT operators

3 Tasks

3.1 Software requirements

For Measurement and Results Placeholder creation and management, the following utility programs are needed:

```
UPAT_CREATE_MEAS_PLACEHOLDER.EXE (v2.0)
UPAT_CREATE_EVAL_PLACEHOLDER.EXE (v2.0)
UPAT_CORRECT_VALID_FLAG.EXE (v2.0)
```

These are simple terminal-based program, during which user inputs will be required.

The command `$ DIR UT:` will show you whether those programs are available on your system.

3.2 Creating a dummy Measurement

Let's consider the following setup for Mr Smith:

- Visit #1 (baseline) :
 - o scheduled 30th August 2014
 - o Tibia Left was scanned
 - o Measurement number #367
- Visit #2 (follow-up):
 - o planned end of August 2015
 - o Mr Smith missed the visit
 - o No measurement available !
- Visit #3 (follow-up):
 - o scheduled 28th August 2016
 - o Tibia Left was scanned
 - o Measurement number #458

First, we need to create a dummy measurement in the database, with the program
UT:UPAT_CREATE_MEAS_PLACEHOLDER.EXE

The prompt below illustrate the sequence to execute in a terminal
 (bold fonts indicate interactive user input):

```
$ RUN UT:UPAT_CREATE_MEAS_PLACEHOLDER.EXE
Program: upat_create_meas_placeholder V2.0
Patient Number [0]: 231
Patient Name: John Smith
Meas: 367      Site 38: TL      Date: 30-AUG-2014 10:24:40.78
Meas: 458      Site 38: TL      Date: 28-AUG-2016 11:30:47.26

Create Placeholder After Meas. (0 to insert before first meas) [458]: 367
Enter measurement date      [4-SEP-2016]: 24-AUG-2015
Scanner ID                  [0]: 3400
Site RL, RR, TL, TR, CU      [TL]: TL
Create New Meas. for this Patient? [Y]: Y
Saving New Measurement 502
Updating Previous Meas. 367
Updating Next Meas. 458
$
```

The statement "Saving New Measurement 502" indicates the attribution of a new measurement number for the dummy placeholder. This number is necessarily the first available number in the database is attributed. This number will naturally be higher than others.

The two following statements indicates that the ordering of the follow up sequence is forced into the database to be 367 → 502 → 458

IMPORTANT

The user gets to choose after which measurement the placeholder will be positioned, in this case it is the baseline measurement #367.

The sequence of measurements is **neither** determined by ascending measurement number ordering, **nor** by measurement date. The measurement number is given automatically, as stated above. The measurement date is simply informative, and does not rule the measurement sequence in the system.

Therefore be cautious to the measurement number given as an input !!!

At this point, only a dummy measurement has been created. No results have been associated to it yet.

3.3 Creating a Result placeholder

Now, we can create the actual result placeholder in the database, with the program:

UT:UPAT_CREATE_EVAL_PLACEHOLDER.EXE

See below the corresponding execution in the terminal:

```
$ RUN UT:UPAT_CREATE_EVAL_PLACEHOLDER.EXE
UPAT_CREATE_EVAL_PLACEHOLDER V2.0
Measurement No. (0 to stop) [0]: 502
Evaluation type [2]: 5
Group code [0]: 0
No evaluation of requested type found for this measurement
Create Placeholder Eval Record? (Y/N) [?]: Y
New Eval record:      2303
Eval for Meas      502 with Eval index      2303 created
Flags set on Valid True AND Placeholder true
Measurement No. (0 to stop) [502]: 0
$
```

Note that UPAT_LIST v2.0 makes possible the existence of numerous result entries for a single measurement. Those result entries are differentiated by pairs of [Evaluation Types/Group Code]. For each wished result entry, one has to repeat the operation to create an individual placeholder per result entry. See the dedicated documentation on UPAT_LIST v2.0 for more details on Evaluation Types and Group Codes.

3.4 Invalidating the placeholder

The placeholder can be de-activated after its creation, with the program **UT:UPAT_CORRECT_VALID_FLAG.EXE**:

```
$ RUN UT:UPAT_CORRECT_VALID_FLAG.EXE
UPAT_CORRECT_VALID_FLAG V2.0

Measurement No. (0 to stop): 502
Evaluation type [2]: 5
Group code [0]: 0

Found evaluation 2303 for patient 231: John Smith

Value for valid flag (0=invalid, 1=valid) [1]: 0
Value for placeholder flag (0=write results, 1=placeholder) [1]: 0

Measurement No. (0 to stop): 0
$
```

The same program can be used to re-activate the same placeholder:

```
$ RUN UT:UPAT_CORRECT_VALID_FLAG.EXE
UPAT_CORRECT_VALID_FLAG V2.0

Measurement No. (0 to stop): 502
Evaluation type [2]: 5
Group code [0]: 0

Found evaluation 2303 for patient 231: John Smith

Value for valid flag (0=invalid, 1=valid) [1]: 1
Value for placeholder flag (0=write results, 1=placeholder) [1]: 1

Measurement No. (0 to stop): 0
$
```