



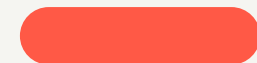
ACCURAY

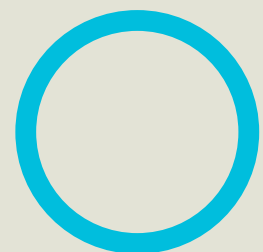
# 第三者評価用**Procedure**作成方法

For Precision  
(Radixact System ver. 1.x)



2021.8.6\_ver.A





照射野5x10cm、10cm深において  
1Gy照射の例

# 始めに

- 1 Gy照射の作成例 (Ex.10.3 sec)

1. 照射野5x10 cm, 10 cm深において、照射時間 60 secの測定結果を記録します。
2. 測定結果より、1 Gy照射に必要な照射時間を算出します。

例) 測定結果が5.83 Gyであった場合

- 1 Gyの照射時間 =  $60 \div 5.83 = 10.3$  sec (小数点2位四捨五入)
- Warm Upの10 secと合わせ、照射時間は、20.3 secとなります。

※本手順書ではこの照射時間例に沿った値を使用しますが、実際にはご施設の値を使用してください。

# Procedure作成方法

Create Machine QAを選択

Machine Name: 4010017 HRC\_6MV X-ray, 3.5MV MVCT  
Machine Serial Number: 4010017  
Machine Status: Ready  
Water Temperature: 38.90°C  
Service Mode: OFF  
Warmup Status: Complete

What's Next?  
Treatment Delivery Console  
Select one of the workflows below.

Tools Lock

Radixact  
ACCURAY

User: training, training  
Version: 1.0.0.6

Warmup

Air Scan

CT Number Calibration

Treat Patient

Patient QA

Static Couch Patient QA

Treat Phantom Plan

Review Registration

Machine QA

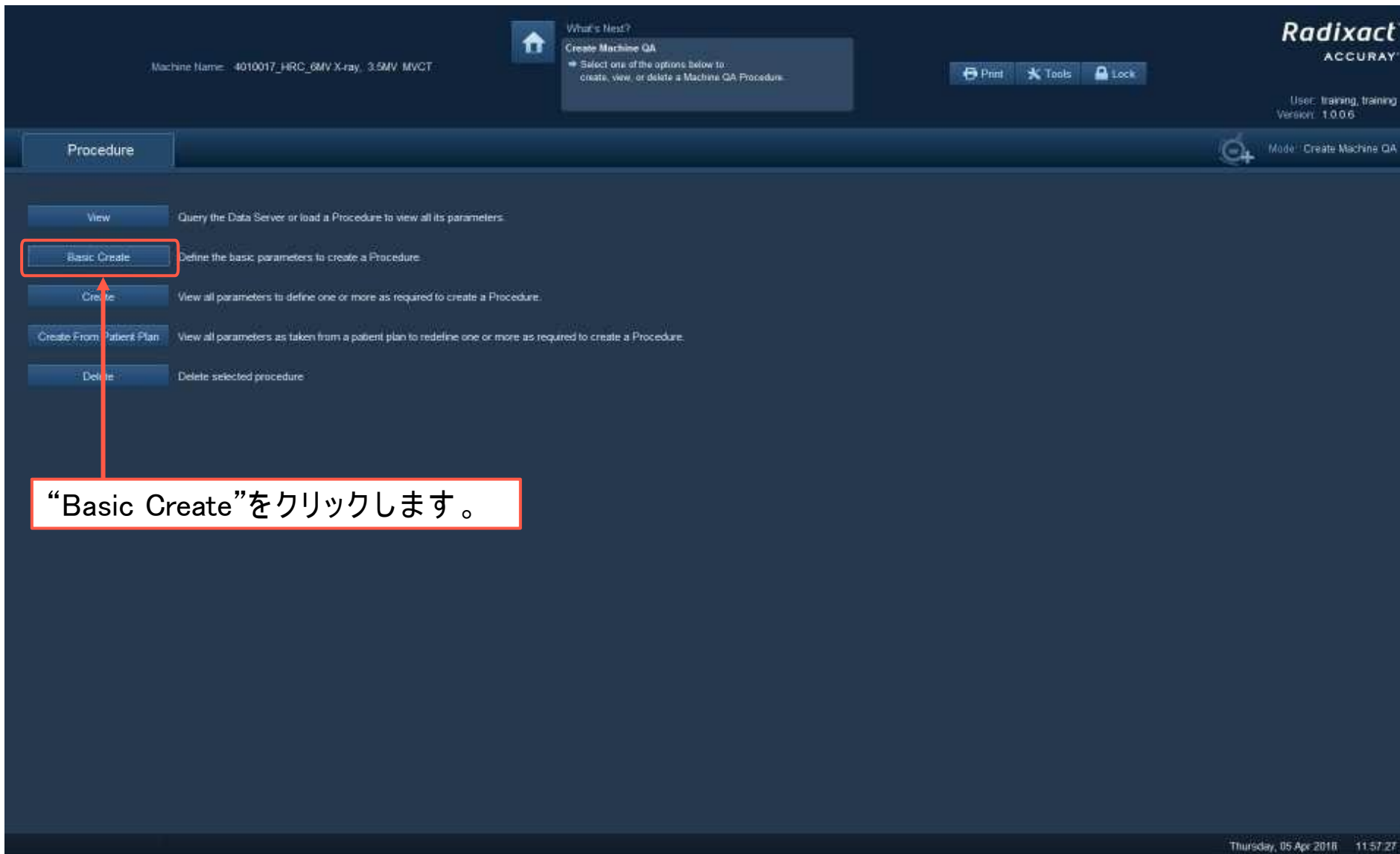
Create Machine QA

Create Machine QAをクリックします。

Thursday, 05 Apr 2018 11:56:56

# Procedure作成方法

Basic Createを選択



The screenshot displays the Radixact ACCURAY software interface. At the top, the machine name is '4010017\_HRC\_6MV X-ray, 3.5MV, MVCT'. A 'What's Next?' box prompts the user to 'Create Machine QA' and select an option: 'create, view, or delete a Machine QA Procedure'. The 'Procedure' menu is open, showing several options: 'View', 'Basic Create', 'Create', 'Create From Patient Plan', and 'Delete'. The 'Basic Create' option is highlighted with a red box, and a red arrow points to it from a text box below. The text box contains the instruction: '“Basic Create”をクリックします。' (Click 'Basic Create').

Machine Name: 4010017\_HRC\_6MV X-ray, 3.5MV, MVCT

What's Next?  
Create Machine QA  
Select one of the options below to:  
create, view, or delete a Machine QA Procedure.

Print Tools Lock

User: training, training  
Version: 1.0.0.6

Procedure

View Query the Data Server or load a Procedure to view all its parameters.

**Basic Create** Define the basic parameters to create a Procedure.

Create View all parameters to define one or more as required to create a Procedure.

Create From Patient Plan View all parameters as taken from a patient plan to redefine one or more as required to create a Procedure.

Delete Delete selected procedure.

“Basic Create”をクリックします。

Thursday, 05 Apr 2018 11:57:27

Radixact ACCURAY

Mode: Create Machine QA

# Procedure作成方法

## 基本設定

The screenshot shows a software interface for creating a procedure. At the top, there are buttons for "Save to XML File", "Save to Data Server", and "Cancel". Below these are several input fields and a list of procedures. The "Machine QA Name" field is set to "Output 1Gy". The "Procedures" list contains one entry: "5x10cm 10.3sec", with "Clone" and "Delete" buttons next to it. The "Description" field is also set to "5x10cm 10.3sec". The "Setup To Ready Longitudinal Distance (mm)" field is set to "0". The "Compression Factor" field is set to "10". The "Compression Type" dropdown menu is set to "BY\_COMPRESSION\_FACTOR". The "Beam" dropdown menu is set to "Treatment, Nominal MU: 1180, Pulse Rate: 300". At the bottom left, there is a "Fragment Summary" box with the following text: "Type of delivery: Static", "Total number of projections: 30", "Projections per second: 1.00", "Gantry Rotations: None", "Projections per rotation: 6.00", "Total Couch Distance: 0.00 mm", "Procedure Time: 30.00 seconds". Below the summary is a "Status" section which is currently empty.

Machine QA Nameを入力します。  
※ 本例では“Output 1Gy”とします。

Descriptionを入力します。  
※ 本例では“5x10cm 10.3sec”とします。

Setup To…に“0”を入力します。  
この値はReady-Yes後のCouch移動量で、“0”にした場合、  
測定時にあらかじめCouchをガントリ内に入れておきます。

Compression Factorを“10”、Compression Typeを  
BY\_COMPRESSION\_FACTORとします。

Beamは“Treatment…”を選択します。

# Procedure作成方法

## Jaws、Gantry、Sinogramの設定

Fragment #1

**Jaws**

Jaw Mode: Fixed

Front Jaw Position (mm): -21.0 Front Jaw: -21.0 Back Jaw: 21.0

Back Jaw Position (mm): 21.0

Dynamic Jaw File:

**Gantry**

Gantry Mode: Fixed

Gantry Start Angle (degrees): 0.0

Projections Per Gantry Rotation:

Time Per Gantry Rotation (seconds):

Projections Per Second: 10

**Sinogram**

Sinogram Mode: Dynamic

Sinogram Filename: c:\accuray\tdc\calibrationData\sinograms\fancyplan\_144proj.bin

Number of projections: 40

Sinogram Editor

Warm-up Duration (seconds): 0.0

Procedure Duration (seconds): 30.0

**Couch**

Couch Mode: Fixed

Couch Distance Per Rotation (mm): 10.0

Couch Speed (mm/second): 1.0

Jaw Modeを“Fixed”に設定します。

“Front Jaw: -21.0 Back Jaw: 21.0”を選択します。

Gantry Modeを“Fixed”に設定します。

Gantry Start Angleを“0.0”にします。

Projection Per Secondを“10”にします。  
1秒当たり10Projectionになります。

Sinogram Modeを“Dynamic”に設定します。

Editをクリックします。

# Procedure作成方法

## Sinogramの編集①

Sinogram Editor ID: 3763472E

Create a new sinogram

Create a new Sinogramアイコンをクリックします。

Resize the sinogramアイコンをクリックします。

Projection countに“203”を入力します。

OKをクリックします。

Leaf: Projection: Percent Open: 64 x 144



# Procedure作成方法

## Sinogramの編集②

Sinogram Editor ID: 3763472E

Fill a rectangle with the current open valueアイコンをクリックします。Sinogramを矩形で指定することができます。

リーフが開く範囲を指定します。  
1枚当たり6.25mmなので、16枚で10cmとなります。  
中心の25～40番までのリーフが開くように指定します。  
左下にLeaf No.とProjectionが表示されます。

※ 本例の場合、Leaf: 25, Projection: 1 から始め、  
Leaf: 40, Projection: 103 へドラッグします。

Leaf: 25 Projection: 1 Percent Open: 0.00 64 x 103

# Procedure作成方法

## Sinogramの編集③

Leaf: 40, Projection: 103までドラッグすると幅10cm、10.3秒分のSinogramが出来ます。

Leaf: 40 Projection: 203 Percent Open: 100.00

64 x 203

# Procedure作成方法

## Sinogramの保存

Save the sinogram to a file

Save the sinogram to a fileアイコンをクリックし、SinogramをFileとして保存します。

File Name: 5x10 203proj

Files of Type: Sinograms (\*.bin)

Save

Saveをクリックします。

Exit the Sinogram EditorアイコンをクリックしてSinogram Editorを終了します。

File Nameを入力します。  
ここでは“5x10 203proj”です。

Saveをクリックします。

# Procedure作成方法

## Projection・Couchの設定

Fragment #1

**Jaws**

Jaw Mode: Fixed

Front Jaw Position (mm): -21.0 Front Jaw: -21.0 Back Jaw: 21.0

Back Jaw Position (mm): 21.0

Dynamic Jaw File:

**Gantry**

Gantry Mode: Fixed

Gantry Start Angle (degrees): 0.0

Projections Per Gantry Rotation:

Time Per Gantry Rotation (seconds):

Projections Per Second: 10

**Sinogram**

Sinogram Mode: Dynamic

Sinogram Filename: c:\accuray\tdc\calibrationData\sinograms\5x10\_203proj.bin

Number of projections: 203

Sinogram Editor

Warm-up Duration (seconds): 0.0

Procedure Duration (seconds): 30.0

**Couch**

Couch Mode: Fixed

Couch Distance Per Rotation (mm): 10.0

Couch Speed (mm/second): 1.0

Number of projectionに実際に使用するProjection数を入力します。  
※ 本例では“203”です。

Couch Modeを“Fix”に設定します。

# Procedure作成方法

XMLファイルとして保存

Procedure

Save to XML File Save to Data Server Cancel

Save the Procedure parameters to an XML file.

Machine QA Name: Output 1Gy

Procedures: 5x10cm 10.3sec

Description: 5x10cm 10.3sec

Setup To Ready Longitudinal Distance (mm): 0

Compression Factor: 10

Compression Type: BY\_COMPRESSION\_FACTOR

Beam: Treatment, Nominal MU: 1180, Pulse Rate: 300

Fragment Summary

Type of delivery: Static  
Total number of projections: 203  
Projections per second: 10.00  
Gantry Rotations: None  
Projections per rotation: 60.00  
Total Couch Distance: 0.00 mm  
Procedure Time: 20.30 seconds

Status

Look In: calibrationData

5x10 60sec CouchImages CTs JawProfiles sinograms StaticDDTSinograms TreatmentProcedures

Save Binaries

Checking this option will save copies of all binary data in the data definition to disk with the xml file

File Name: Output 1Gy

Files of Type: Accuray calibration files (\*.xml)

Save Cancel

“Save to XML File”をクリックします。

File Nameを入力します。  
※本例では“Output 1Gy”です。

“Save”をクリックします。

Fragment SummaryでProjection Timeを確認します。  
※本例では20.30secondsです。

# Procedure作成方法

データサーバーに保存

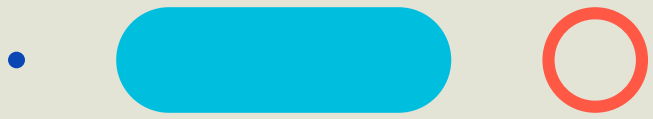
The screenshot shows the 'Procedure' configuration window. At the top, there are three buttons: 'Save to XML File', 'Save to Data Server', and 'Cancel'. A red box highlights the 'Save to Data Server' button, with an arrow pointing to it from a text box that says 'Save to Data Serverをクリックします。' (Click Save to Data Server).

Below the buttons, the 'Machine QA Name' is 'Output 1Gy'. The 'Procedures' list contains '5x10cm 10.3sec'. The 'Description' is also '5x10cm 10.3sec'. Other fields include 'Setup To Ready Longitudinal Distance (mm): 0', 'Compression Factor: 10', 'Compression Type: BY\_COMPRESSION\_FACTOR', and 'Beam: Treatment, Nominal MU: 1180, Pulse Rate: 300'.

A 'Fragment Summary' box shows: Type of delivery: Static, Total number of projections: 203, Projections per second: 10.00, Gantry Rotations: None, Projections per rotation: 60.00, Total Couch Distance: 0.00 mm, Procedure Time: 20.30 seconds.

A 'Status' section is visible at the bottom left.

Overlaid on the right is a dialog box titled 'Saving Machine QA Procedure to Data Server' with ID: 23208413. It lists the following steps: Validating parameters, Validating reference image file, Validating procedures, Validating Procedure: 5x10cm 10.3sec, Validating fragment [1] settings, Checking for matching beam, Validating fixed jaw settings, Validating sinogram file, Finished validating Procedure: 5x10cm 10.3sec, Finished validating parameters, Uploading to server..., Creating machine QA record, Building Machine QA, Loading Reference Image, Building procedure sets, Building procedure, Building fragment, Loading Sinogram, and Uploading files. At the bottom of the dialog, a message says 'Machine QA record created successfully' and a 'Close' button is highlighted with a red box. An arrow points from this box to a text box at the bottom of the slide that says 'Machine QA record created successfullyと表示されたらCloseをクリックします。' (Click Close when Machine QA record created successfully is displayed).



**Thank you**

ACCURAY

