

Data Management in Castor EDC

The following manual contains suggestions and ideas for managing your data. The manual uses activities outlined in the [GCDMP](#) as a guide and is divided based on those activities. This manual may reference information provided in our other role specific manuals for Data Entry, Monitoring, and Study Admin.

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Study Set-up

CRF Review

To review the entire CRF, there are two options: export the data dictionary or print the CRF to PDF.

Data Dictionary

A data dictionary is included with each data export. The data dictionary includes all of the variables within the study, including option groups, and field dependencies.

In the Records Overview, click on the 'Actions' button and choose the option to 'Export all' to export all records. If you would like to export only a selection of records, click on the checkbox next to each record or use the 'Filters' button to filter the records based on certain criteria. Afterwards, the options 'Export all filtered' or 'Export selected' will be activated in the 'Actions' menu.

The screenshot shows the Castor EDC Study interface. On the left is a sidebar with navigation links: Records, Reports, Surveys, Monitoring, Statistics, and Main Contact. The main area displays a table of records for 'Castor EDC Study' (v0.01). The table has columns for Record ID, Institute, Randomization, Progress, Created on, Updated on, and Status. A table with 6 records is shown. Above the table is a search bar and an 'Exact match' checkbox. To the right of the table are buttons for '+ New', 'Actions', and 'Filters'. The 'Actions' dropdown menu is open, showing options: Lock, Unlock, Print selected, Print empty CRF, Export all (highlighted with a red '2'), Export all filtered, Export selected, Import, Update status, Update institute, Archive selected, and Un-archive selected. A red '1' points to the 'Actions' button.

Record ID	Institute	Randomiza...	Progress	Created on	Updated on	Status
110001	Main Institute	-				Excl
110002	Main Institute	Control				Foll
110003	Main Institute	Treatment				Not:
110004	Main Institute	Treatment				Disc
110005	Main Institute	-				Not:
110006	Main Institute	-				Not:

In the 'Data Export' window:

1. Select either Excel or CSV.

Data Export (All Records) X

Only records for which you have Export rights will be Exported

Export Type
CSV

Display options as
☒ Numbers (values) ☐ Names (labels)

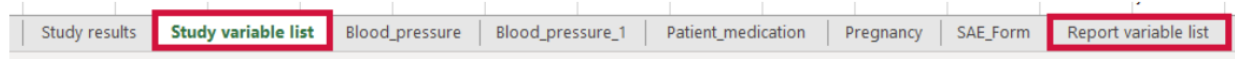
How to export
☒ Interactive (tree) ☐ Variable list ☐ Variables bulk (paste)

Include
☒ Comments
☒ Queries
☒ Verifications
☐ Encrypted Fields

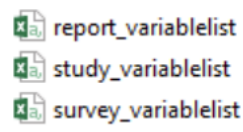
Entire study
Study
Reports
Surveys

Export Cancel

- An Excel export will produce one workbook with multiple worksheets.



- A CSV export will produce a ZIP file with individual worksheets.

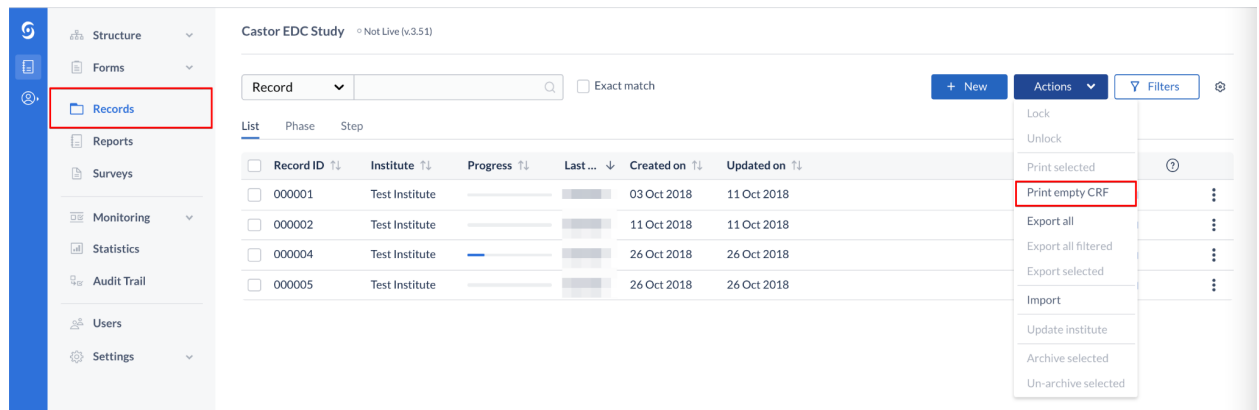


2. Select 'Entire Study'.
3. Click 'Export'.

Study variables, report variables, and survey variables will be exported as separate variable lists.

Blank CRFs

1. Navigate to the 'Records' tab. In the upper right corner, click on the 'Actions' button, then click on 'Print empty CRF':



2. Here you will select the options for your PDF.

The 'Print empty CRF' dialog box is shown. It has a title bar with a close button (X). The dialog contains the following options:

- Print structure:** A dropdown menu with 'Study' selected.
- Include:** A list of checkboxes:
 - ☐ Helptexts
 - ☐ Additional info
 - ☐ Calculation field templates
 - ☒ Hidden calculation fields
- Print steps on separate pages?:** Radio buttons for 'Yes' and 'No' (selected).
- Buttons:** 'Print' and 'Cancel' buttons at the bottom.

1. Select the structure (Study, Reports, Surveys) you would like to print.
2. Choose the options you would like to include in the PDF.
3. Click 'Print'.

A new page will open, which contains a preview of the printable study form. You can save this page as a PDF by selecting the option 'Save as PDF' from the available options.

Randomization Review

Castor uses a variable block randomization method. Randomization settings can be viewed in the Settings tab. You are able to define up to 9 randomization groups and weights (1), block sizes, and fields within the CRF for stratification (2). Customized randomization settings are available for an additional fee. Please contact your account executive for more information.

The option 'Stratify per institute' is set to 'Yes' by default.

The screenshot shows the 'Castor EDC Study' interface with the 'Randomization' settings tab selected. The left sidebar contains a menu with 'Settings' highlighted, which includes sub-items: 'Study', 'Metadata', 'Notifications', and 'Randomization'. The main content area is titled 'Randomization groups' and 'Stratify by'. It features two tables: 'Randomization groups' with columns 'Name', 'Weight', and 'Remove', and 'Stratify by' with columns 'Field', 'Strata', and 'Remove'. Below these tables are two buttons: 'Add group' (labeled 1) and 'Add stratum' (labeled 2). At the bottom, there are dropdown menus for 'Randomization algorithm' (set to 'Variable block randomization'), 'Stratify per institute' (set to 'Yes'), and 'Block sizes' (set to '2, 3, 4'). A 'Save randomization settings' button is located at the bottom left of the main content area.

Randomization User Rights

There are two separate user rights related to randomization in Castor. A user can have none, one, or both rights. The randomization right allows a user to randomize a record. View randomization allows a user to view the randomization allocation for a record. Both rights together will allow a user to both randomize and view the randomization allocation for a record.

User rights for [Admin]													
Institute Rights		Management Rights											
Institute ^	User role	Add	View	Edit	Email	Rand.	View ran.	Sign	Lock	Verify	Query	Archive	Export
All institutes	<u>None</u>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Castor 1	<u>None</u>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Castor 2	<u>None</u>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Castor 3	<u>None</u>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Test Institute	<u>Admin</u>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

Please note that users that do not have view randomization rights will be unable to export randomization data when performing data exports.

Data Validations/Edit Checks

Data validations, or real-time edit checks, are able to be programmed at the field level. A simple or single field validation can be created on the field properties tab. You are able to use these data validations to warn data entry users about a possible error or provide further instructions.

Data Validation: Single Field

There are 4 validation types:

- **Message:** A simple indication message, outlined in blue, that the user needs to take a certain action.

3.4 Can patient participate in the study? Yes

Patient can participate, please continue.


- **Warning:** An orange coloured message bar appears to warn the user that something is incorrect.

3.4 Can patient participate in the study? Data missing

Patient cannot participate, all inclusion fields must be completed

- **Error:** A red outlined message can be used to indicate data has been entered that is not accepted or wrong. When the error message type is displayed, the data for that field is not saved. This means that a subsequent field cannot be

dependent on a value that would trigger the 'Error' message.

3.1 Does patient have example disease? ☐ Yes ☒ No 

 Patient must have example disease to be eligible for participation.


Exclusion: A message in purple that excludes the subject from the study; when this message is visible the user, it is possible to navigate to different steps in a form:


- if an exclusion occurs on the study form, data entry is blocked on the entire study form and on any report instances. The Exclusion message will be displayed on every form in the study data view with the name of the step where the exclusion has been triggered. The report data view will be greyed out:

 The patient cannot participate in the study Step: Grid Calculations

- If an exclusion occurs on a report instance form, data entry is blocked on that report instance form, but not blocked on any other report instances or study data.

You can use this for validating inclusion and exclusion criteria. Please be aware, that it's not possible to leave fields with exclusion criteria empty (user missing), nor possible to enter values which are outside the boundaries you have set.

2.1 Is informed consent signed? ☐ Yes ☒ No 

 The subject cannot participate if informed consent is not signed!

Data Validation: Multi-Field

If you would like to validate multiple fields, for example, eligibility criteria, it is necessary to first create a calculation field that considers the variables in the study. For an example calculation, please see the [article](#) in our helpdesk. You can then create a data validation in the field properties on the calculation field.

Baseline (example phase)		
1. Inclusion		
1.1	Does the patient have example disease?	<input checked="" type="radio"/> Yes <input type="radio"/> No
1.2	Is patient older than 65	<input type="radio"/> Yes <input checked="" type="radio"/> No
1.3	Has patient signed informed consent?	<input checked="" type="radio"/> Yes <input type="radio"/> No
1.4	Can patient participate in the study?	Yes
<div> <i>i</i> Patient can participate, please continue to demographics. </div>		

eLearning

Castor Academy (academy.castoredc.com) is our eLearning platform. The Academy contains a structured series of videos with step-by-step instructions for each selected Castor feature. Courses are role specific for data entry personnel, monitors, and study builders.

For premium accounts, we offer courses with certifications that require the completion of quizzes after each section is completed. Users are required to pass each quiz with an 80% to proceed to the next section. If a user fails to pass a quiz, they will need to wait 2 weeks in order to retake the quiz. The courses without a certification are also available at no charge to all Castor users.

User accounts on Castor Academy are not linked to user accounts in Castor EDC. Therefore, we at Castor do not enforce the completion of Castor Academy for access to live studies.

To take advantage of the certified courses, please contact your dedicated Customer Success Manager or Support at support@castoredc.com.

User Acceptance Testing (UAT)

Castor does not offer UAT for studies not created by our Professional Services team. However, we have provided guidance documentation in our online manual. This documentation can be reviewed [here](#).

For studies that are created by our Professional Services team, Castor offers two levels of UAT. Basic UAT includes the creation of two test records and ensuring that all edit checks and dependencies work correctly. Basic UAT does not include documentation.

Extensive UAT includes the creation of a data dictionary before study building commences, and an automated UAT process that confirms the existence of fields and tests functionality of each field. Documentation is provided. Extensive UAT should be requested before study building begins and cannot be added later.

Tracking

Enrollment Status

It is possible to track enrollment status using the Record Status feature in Castor EDC. Study admins with 'Manage Settings' rights can create, update and delete record statuses from the Study settings.

The screenshot shows the 'Study Settings' page for a 'Randomized Controlled Trial' (v0.01). The left sidebar contains a navigation menu with 'Settings' highlighted. The main content area is divided into sections: 'GCP' and 'Other'. In the 'GCP' section, there is a 'Confirm Changes' dropdown set to 'Yes' and a note about setting a signature statement. In the 'Other' section, there are several dropdown menus for 'Record IDs', 'Clear inapplicable child fields', 'Enable beta features', 'Enforce 2FA', 'Enable signing of locked forms', and 'Only show records with exact match when searching'. Below these, there are links for 'Change signature statement', 'Manage record status' (which is highlighted with a red box), 'Manage custom columns', and 'Manage list'. A 'Save changes' button is located at the bottom right.

Once a status is defined in the Settings tab, data entry users will be able to select the status in the Records view.

Record ID: 110001 ◉ Not Live (v.0.01)

Record Status: Not Set

Record: 110001
Not Set
Progress: 0%

Screening
1. Demographics

- 1.1 Year of birth (yyyy)
- 1.2 Gender ☐ Female ☐ Male
- 1.3 Height cm
- 1.4 Weight kg
- 1.5 BMI Not all values for this calculation are available (yet).
- 1.6 Country of origin

The record status is also visible in the Records overview in the Status column.

Structure

Forms

Records

Reports

Surveys

Monitoring

Randomized Controlled Trial

◉ Not Live (v.0.01)

Record

Exact match

+ New

Actions

Filters

List

Phase

Step

<input type="checkbox"/>	Record ID	Institute	Randomiza...	Progress	Last opene...	Created on	Updated on	Status	
<input type="checkbox"/>	110001	Main Institute	-			06 Oct 2021	06 Oct 2021	Enrolled	

Progress of completion

Completion for each area of the CRF is generally coded using colored status icons.

Record ID: 110005 ◉ Not Live (v.0.01)

Record Status: Not Set

Record: 110005
Not Set
Progress: 35%

Screening
3. Study inclusion

Previous trial participation is an exclusion criterion. You cannot proceed with data entry. Step: Study inclusion

- 3.1 Informed consent signed? ☐ Yes ☐ No
- 3.1.1 Date of informed consent 2022-03-18 (YYYY-MM-DD)
- 3.2 Has the patient previously participated in a clinical trial? ☒ Yes ☐ No
- 3.3 Is the patient older than 18? ☐ Yes ☐ No
- 3.4 Inclusion criteria met? Not all values for this calculation are available (yet).

The status icons indicate the status for a field, they have the following meanings:

- **Green:** The value is valid and the field is saved.
- **Orange:** The field is required and no value has been entered yet.
- **Red:** The value is invalid and the field has not been saved.
- **No icon:** The field is not required and no value has been saved.

These field level status icons in data entry view are the lowest status level for progress indication in phases, steps, reports, and surveys. Progress for phases, steps, reports, and surveys are calculated based on the fields that are marked [required](#) in the fields' settings. Fields that are not required are not included in the completion progress.

Records

Record progress can be viewed on the Record Overview screen (3).

Record ID	Institute	Randomiza...	Progress	Created on	Updated on	Status
110001	Main Institute	-	Progress bar (purple with icon)			Excluded
110002	Main Institute	Control	Progress bar (blue)			Follow-up
110003	Main Institute	Treatment	Progress bar (blue)			Not Set
110004	Main Institute	Treatment	Progress bar (blue)			Discharged
110005	Main Institute	-	Progress bar (purple with icon)			Not Set
110006	Main Institute	-	Progress bar (gray)			Not Set

List view (2) provides an overall view of required fields in the study form. A record will show as incomplete until required fields in all phases and steps are complete.

- **Green:** All field values are complete and valid.
- **Gray:** No values have been saved or data entry has not begun.
- **Blue:** Data Entry has started but is not complete.
- **Purple with an icon:** Patient is excluded from the study.

Please note that if a record contains an unclosed query, progress will remain incomplete even if all data has been entered.

Phase View provides an overview of the progress for each phase.

Castor EDC Study

Not Live (v.0.21)

Record

Exact match

+ New

Actions

Filters

List

Phase

Step

<input type="checkbox"/> Record	Institute	Screening	First Study Visit	Follow-up	Outcome
<input type="checkbox"/> 000001	Utrecht Institute	<div><div></div></div>	<div><div></div></div>	<div><div></div></div>	<div><div></div></div>
<input type="checkbox"/> 000002	Utrecht Institute	<div><div></div></div>	<div><div></div></div>	<div><div></div></div>	<div><div></div></div>
<input type="checkbox"/> 110001	Utrecht Institute	<div><div></div></div>	<div><div></div></div>	<div><div></div></div>	<div><div></div></div>
<input type="checkbox"/> 110002	Amsterdam Institute	<div><div></div></div>	<div><div></div></div>	<div><div></div></div>	<div><div></div></div>
<input type="checkbox"/> 110003	Amsterdam Institute	<div><div></div></div>	<div><div></div></div>	<div><div></div></div>	<div><div></div></div>
<input type="checkbox"/> 110004	Amsterdam Institute	<div><div></div></div>	<div><div></div></div>	<div><div></div></div>	<div><div></div></div>
<input type="checkbox"/> 110005	Amsterdam Institute	<div><div></div></div>	<div><div></div></div>	<div><div></div></div>	<div><div></div></div>
<input type="checkbox"/> 110006	Amsterdam Institute	<div><div></div></div>	<div><div></div></div>	<div><div></div></div>	<div><div></div></div>
<input type="checkbox"/> 110007	Amsterdam Institute	<div><div></div></div>	<div><div></div></div>	<div><div></div></div>	<div><div></div></div>
<input type="checkbox"/> 110008	Amsterdam Institute	<div><div></div></div>	<div><div></div></div>	<div><div></div></div>	<div><div></div></div>

123456...14Next

1 - 25 of 333

Items per page: 25

Step View provides an overview of the progress for each step.

Castor EDC Study

Not Live (v.3.61)

Record

Exact match

+ New

Actions

Filters

List

Phase

Step

<input type="checkbox"/> Record ID	Institute	Inclusion	Demographics	Measurements	Assessment
<input type="checkbox"/> 000001	Test Institute	<div><div></div></div>	<div><div></div></div>	<div><div></div></div>	<div><div></div></div>
<input type="checkbox"/> 000002	Test Institute	<div><div></div></div>	<div><div></div></div>	<div><div></div></div>	<div><div></div></div>
<input type="checkbox"/> 000004	Test Institute	<div><div></div></div>	<div><div></div></div>	<div><div></div></div>	<div><div></div></div>
<input type="checkbox"/> 000005	Test Institute	<div><div></div></div>	<div><div></div></div>	<div><div></div></div>	<div><div></div></div>

Reports

Since each report can have none to many instances for each record, progress for reports does not influence the progress of the record. Like study data, progress is only influenced by those

fields that are required. The color coded status icons indicate the completion status of each report instance.

Back to records

Record

Study

Reports

Surveys

Monitoring

Randomization

Record ID: 110002

Not Live (v0.01)

Record Status: Follow-up

Record: 110002

Follow-up

Progress: 58%

Show Reports

All reports

Filter by report type: Select report type to filter

Filter by report: Select report to filter

Filter by status: Unarchived

Filter by name:

Filter by phase: Select phase to filter

Add a report

Status	Report	Name	Type	Created on	Created by	Assigned to
●	Adverse event	Adverse event - 1...	Adverse Event			First Study Visit
●	Blood pressure	Blood pressure - 1...	Repeated measure			First Study Visit
●	Medication	Medication - 18-0...	Repeated measure			Screening
●	Medication	Medication - 18-0...	Repeated measure			Screening
●	Medication	Medication - 18-0...	Repeated measure			Screening
○	Unscheduled visit	Unscheduled visit ...	Unscheduled phase			Follow-up

Page 1 of 1

Show 25

Reports 1 - 6 of 6

Report

Previous

Next

Surveys

Survey progress is displayed as a percentage of required fields that have been completed. You further have the option to automatically lock surveys when a respondent submits a survey and [create notifications](#) each time a survey is completed. If a respondent does not complete a survey in one sitting, responses are saved and the respondent can continue answering where they left off.

Castor EDC Study Not Live (v.7.41)

Manage groups [Bulk Survey Invite](#)

Filter by institute: Filter by survey package name: Filter by completion status: Filter by parent: No parent selected

Filter by record id: Filter by date sent: Filter by date completed: [Reset](#)

<input type="checkbox"/>	Record	Institute	Package name	Status	Progress	Date created	Date planned	Date sent	Date complet...	Menu
<input type="checkbox"/>	110001	Castor	Health Survey Pac...	Created	0	2019-08-20	2019-09-16			
<input checked="" type="checkbox"/>	110001	Castor	Health Survey Pac...	Sent	0	2019-08-16		2019-08-16 1...		
<input type="checkbox"/>	110002	Castor	Health Survey Pac...	Sent	0	2019-08-20		2019-08-20 1...		
<input type="checkbox"/>	110003	Castor	Health Survey Pac...	Created	0	2019-08-20				
<input type="checkbox"/>	110003	Castor	Health Survey Pac...	Sent	0	2019-08-20		2019-08-20 1...		

Page 1 of 1 | Show 25 | Lock selected | Unlock selected | (Re)send invite

Surveys 1 - 5 of 5

Data Review

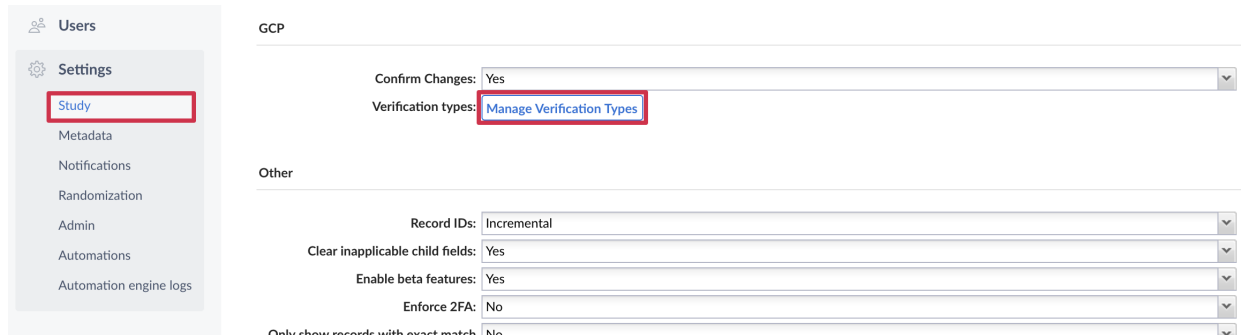
Verification

In Castor you have the option to verify collected data in your study. The most common example is source data verification (SDV), but you can also define your own verification type depending on the quality control that you want to use for your study data.

The SDV option is included by default if Monitoring is enabled. To use this feature you have to first ensure that the correct study settings are applied and that the correct [user rights](#) are assigned to users in the study.

Data verification is linked to Monitoring, so to be able to use it, first enable Monitoring in your study settings. Note: Monitoring cannot be enabled for retrospective studies.

Under 'Manage verification types', located in the 'GCP' section of the study settings, you can add or edit the verification types in your study:



Users

- Settings
 - Study**
 - Metadata
 - Notifications
 - Randomization
 - Admin
 - Automations
 - Automation engine logs

GCP

Confirm Changes: Yes

Verification types: Manage Verification Types

Other

Record IDs: Incremental

Clear inapplicable child fields: Yes

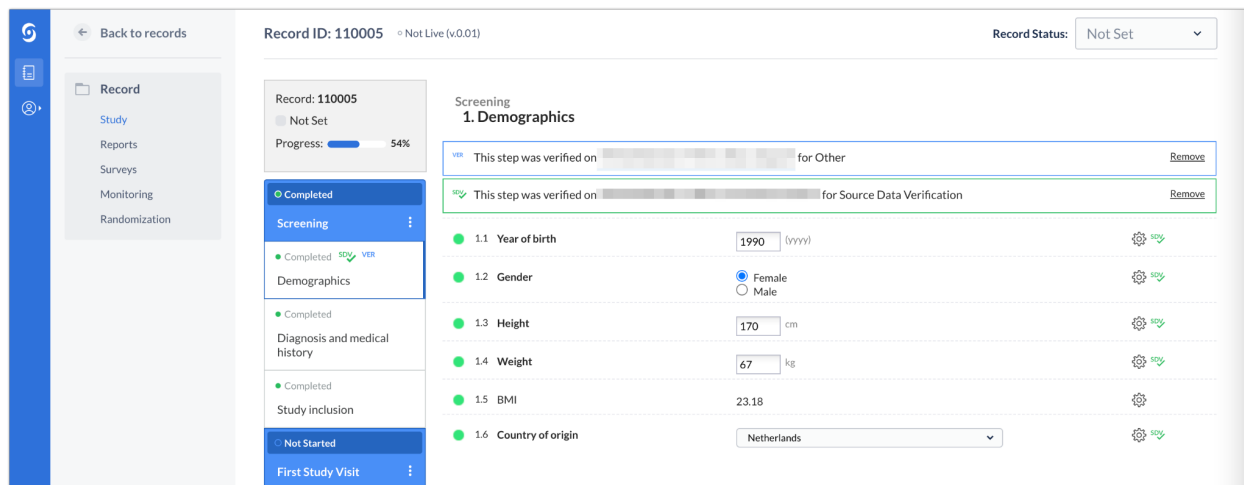
Enable beta features: Yes

Enforce 2FA: No

Only show records with exact match: No

You have the option to SDV all steps in a phase, a step (including all fields or required fields) as well as individual fields. For other custom verification types, you cannot verify individual fields.

At the top of each verified page, a banner is displayed with the verification details. This banner is only visible if SDV has been performed on an entire step.



Record ID: 110005 Not Live (v0.01) Record Status: Not Set

Record: 110005 Not Set Progress: 54%

Screening

1. Demographics

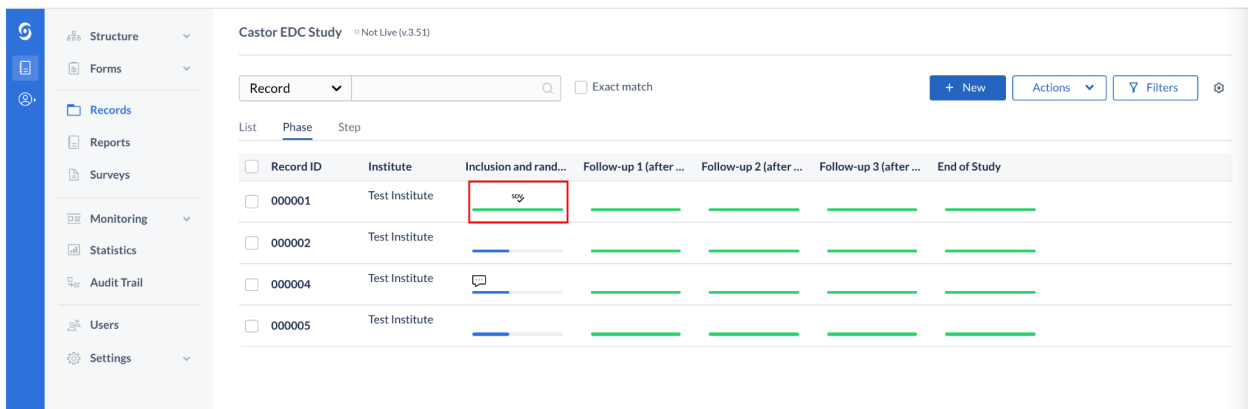
This step was verified on [date] for Other Remove

This step was verified on [date] for Source Data Verification Remove

1.1 Year of birth	1990 (yyyy)	VER
1.2 Gender	Female Male	VER
1.3 Height	170 cm	VER
1.4 Weight	67 kg	VER
1.5 BMI	23.18	VER
1.6 Country of origin	Netherlands	VER

1. A custom verification banner
2. An SDV banner
3. The step verification icons

Phases and steps that have been SDV'd can be seen on the Records overview page when in Phase or Step view. Remember that an entire phase or step would need to have SDV performed in order for the SDV icon to appear.



The screenshot displays the 'Castor EDC Study' interface. On the left is a navigation menu with options: Structure, Forms, Records (selected), Reports, Surveys, Monitoring, Statistics, Audit Trail, Users, and Settings. The main area shows a table of records. The table has columns: Record ID, Institute, Inclusion and randomization, Follow-up 1 (after ...), Follow-up 2 (after ...), Follow-up 3 (after ...), and End of Study. Five records are listed, all from 'Test Institute'. The first record, ID 000001, has its 'Inclusion and randomization' status highlighted with a red box, showing a green progress bar and a checkmark icon. The other records show varying levels of completion with blue and green bars.

Record ID	Institute	Inclusion and random...	Follow-up 1 (after ...)	Follow-up 2 (after ...)	Follow-up 3 (after ...)	End of Study
000001	Test Institute					
000002	Test Institute					
000004	Test Institute					
000005	Test Institute					

Data Processing

Medical Coding

Castor EDC allows for medical coding of adverse events and concomitant medications. We have implemented an out-of-the-box integration with a Medical Coding platform: MedCodr.

MedCodr is a web based solution for coding medical terms and products to standard dictionaries including MedDRA and WHODrug or custom dictionaries.

It is possible to attach metadata from the MedDRA and WHODrug to Adverse Event (AE) dictionaries. This means that, upon adding terms in a text field in an AE, Medical History, or Concomitant Medication Report, it is possible to use MedCodr (an external service) to browse and attach the correct translation from the MedDRA and WHODrug to these reports.

Once one of the above mentioned reports are created and a term is added to a text field, codes are pushed back to Castor EDC in dedicated coding reports that can be exported separately.

Castor also provides Coding-as-a-Service for when your team does not have the time or capabilities to perform this task.

Medical Coding is a premium feature. If you are interested in adding this service, please contact your account executive or support@castoredc.com.

Loading Electronic Data

There are two methods available to add electronic data to the EDC: CSV import or Application Programming Interface (API).

CSV Import

You are able to import data into the EDC via CSV. You can import data for one record at a time or for multiple records. For importing via CSV, variable names must exist in the database and there is a limit of 25,000 data points per single import. This limit is much lower for importing encrypted data.

It is possible to import study data and report data only. Study and report data must be imported separately. It is not possible to import the following:

- Survey data
- Queries
- Comments
- Signatures
- Data verifications

Note that in certain circumstances data in the CSV file must be formatted properly for a successful import. Details about these formats can be found in our [online manual](#).

Please review [Import Study Data](#) and [Import Report Data](#) for more information about importing.

Application Programming Interface (API)

Castor EDC allows for linking the EDC database to other applications via API. The API supports authentication and authorization of API calls through the industry standard [OAuth2](#). To start, you will need to create [API credentials](#) in the Account Settings.

It is possible to retrieve (GET) and send (POST) using API endpoints.

These endpoints can be found in our online manual based on the server you are using for your study:

- EU: <https://data.castoredc.com/api>
- US: <https://us.castoredc.com/api>
- UK: <https://uk.castoredc.com/api>
- AUS: <https://au.castoredc.com/api>

If questions arise during your setup, please contact support@castoredc.com.

Data Queries

Data queries can be viewed on the Record Overview for each record. The counter displays only queries that have not been closed.

Castor EDC Study - Not Live (v.0.01)

Record ID Institute Randomiza... Progress Created on Updated on Status

Record ID	Institute	Randomiza...	Progress	Created on	Updated on	Status
110001	Main Institute	-	<div></div>			Excluded
110002	Main Institute	Control	<div></div>			Follow-up
110003	Main Institute	Treatment	<div></div>			Not Set
110004	Main Institute	Treatment	<div></div>			Discharged
110005	Main Institute	-	<div></div>			Not Set
110006	Main Institute	-	<div></div>			Not Set

The query icon can also be seen when in phase and step view.

The status and comments for each query can be reviewed on the Monitoring tab, Queries subtab.

Familiarise Yourself With Castor - Not Live (v.0.31)

Queries

Record ID	Institute	Created on	Created By	Last updated by	Closed by	Location	First Remark	Last Remark	Status	Query age	Time to resol	View
110001	Main Institute	20 Jul 2021	Ernest Mbyeti	Ernest Mbyeti		Phase Infor...	test	test	New	0	0	
110002	Main Institute	20 Jul 2021	Ernest Mbyeti	Ernest Mbyeti		Phase Infor...	ok	ok	Resolved	0	0	
110002	Main Institute	20 Jul 2021	Ernest Mbyeti	Ernest Mbyeti	Ernest Mbyeti	Phase Infor...	test	test	Confirmed	0	0	
110002	Main Institute	20 Jul 2021	Ernest Mbyeti	Ernest Mbyeti		Phase Infor...	test	test	Unconfirmed	0	0	
110002	Main Institute	20 Jul 2021	Ernest Mbyeti	Ernest Mbyeti	Ernest Mbyeti	Phase Infor...	test	test	Closed	0	0	




When an existing query is opened, the status is set as New. A normal user can either set the status to:

- **Open:** The user has acknowledged/opened the query, and added a remark. The status changes from New to Open.
- **Unconfirmed:** The user does not agree with the monitor.
- **Confirmed:** The user agrees with the monitor and will try to resolve the issue.
- **Resolved:** The user has changed the value and indicates the issue is resolved, for example the user has reacted to a query and left a comment. In this case the query is not closed which is why the step status is shown as amber, and not green - the query is still open.
- [Only with 'Query' right (monitor)] **Closed:** The monitor indicates the issue is resolved and marks the query as closed. The query icon will turn into a green check mark and the progress button of the entire step will be green indicating

that the step has been completed - all data entered and there are no open queries.

The icon that is displayed next to the field with the query or in the Monitoring tab displays the status of the query:

1. Open/Unconfirmed/Confirmed.

 New  Open  Confirmed

2. Resolved.

 Resolved

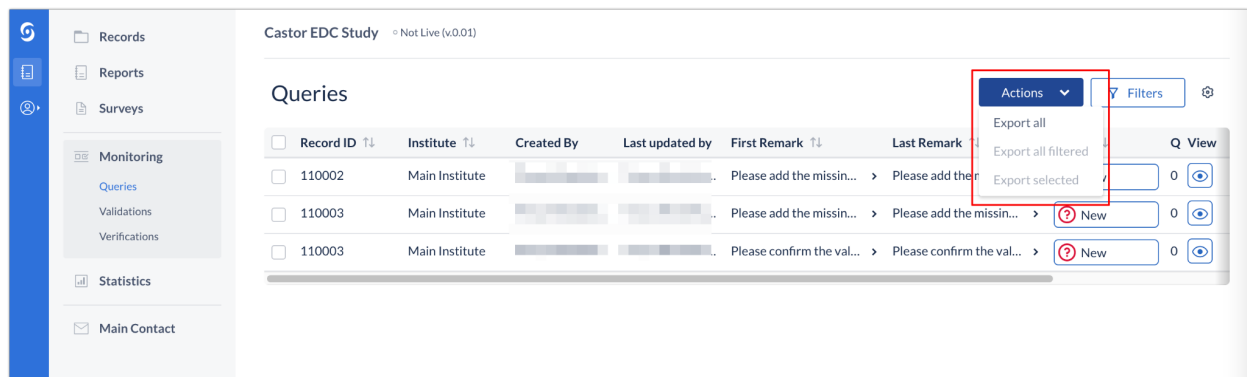
3. Closed.

 Closed

Exporting Queries

Users with Export rights can export the queries overview in bulk, either by exporting all available queries or only the ones that the user has selected or filtered. To export the queries from the Monitoring tab, Queries sub-tab, follow the steps below:

- Click on the Actions button and choose to Export either all queries, export all filtered or all selected:



- In Queries export dialog window, you can specify:
 - Export type: choose to export into CSV or Excel (1)

- Export tree: choose if you would like to export queries for entire study, specific study phases or steps in your study or for reports, a specific report or a report step (2)
- Export: click on Export button to generate export of the queries (3)

Queries export (All Queries) X

Export type

1 CSV

2

Entire study

Study

Reports

3

Only queries for which you have Export rights will be Exported

Export Cancel

Missing pages

User missing

If a data point cannot be answered due to missing data or other known reason, you can address this in the study forms by defining the data as 'user missing'. This option can be accessed by clicking on the cogwheel next to the field and selecting 'User missing':

Record ID: 110003 © Not Live (v.0.01) Record Status: Not Set

Record: 110003 Not Set Progress: 58%

First Study Visit 5. Blood test English

Item	Value	Unit	Settings
5.1 Date of blood sample	2022-03-01	(YYYY-MM-DD)	⚙️
5.2 Haemoglobin concentration		mmol/l	⚙️
5.3 Hematocrit value		l/l	⚙️
5.4 Blood white blood cell count		*10 ⁹ /L	⚙️
5.5 Blood trombocyte count		*10 ⁹ /L	⚙️
5.6 Blood urea		mmol/l	⚙️
5.7 Blood creatinine		umol/l	⚙️

Context menu for 5.2 Haemoglobin concentration:

- Clear
- User missing
- Comments
- History

A dialog window will open, in which you are prompted to select the most applicable reason for the missing data point and to add a comment. The selected reason will assign the associated value to the field and this value that will also be exported as data values. It is not possible to change the predefined values for missing data. The available values are:

- Measurement failed (-95)
- Not Applicable (-96)
- Not asked (-97)
- Asked but unknown (-98)
- Not done (-99)

The field marked as missing will be faded/greyed in the form, but the status icon will update to show that the field has been completed. A comment will be added to the field, containing the reason entered.

If needed, it is possible to remove the 'user missing' entry by clicking on the cogwheel menu and selecting the checkbox 'User missing' again. This will remove the 'User missing' status and allow entry of data into the field. The comment will be kept and each of these actions will be logged in the audit trail.

Mark full steps/phases as missing

Full steps and phases can also be marked as missing by selecting Mark phase / step as missing in the data entry navigator using the cogwheel right next to the phase/step:

Record ID: 110003 • Not Live (v0.01) Record Status: Not Set

Record: 110003
Not Set
Progress: 58%

Follow-up 8. Physical exam

8.1 Date of visit (YYYY-MM-DD)

8.2 Heart rate (Beats per minute)

8.3 Blood pressure measurements - measure in all positions

Created on Measurement p... Systolic pressure Diastolic press... Date and time o...

Mark phase as missing

Print this phase

Add a report to this phase

After 'Mark step/phase as missing' is clicked, a new dialog window will open in which you can provide a reason for the missing information and include a comment:

Mark whole phase 'Demographics' as missing?

Choose reason:

☐ Measurement failed (-95)

☐ Not applicable (-96)

☐ Not asked (-97)

☐ Asked but unknown (-98)

☐ Not done (-99)

Comment:

Please note: marking a phase as missing cannot be undone. Setting phase to missing may affect signatures, verifications and Child field dependencies.

Save Cancel

Notifications

Notifications for specific study events can be created in the study settings. Notifications are not possible for individual fields or completion statuses. Available study events include:

- Form signature dropped due to edit
- Form signed: Report
- For signed: Report Step

- Form signed: Study Phase
- Form signed: Study Step
- Form verification dropped due to edit (and field form verification dropped due to edit)
- New query created
- New record created
- Query updated
- Record randomized
- Report completed
- Survey package completed
- New report added to record: when selecting new report added to a record, choose from the drop-down menu which is the specific report that you are interested in receiving the notification

Add a new notification

Event type:
New report added to record

Report:

Recipient:
All

Filter on institute:
Blood pressure
Medication

Notification template:

Unscheduled visit

Available tags:

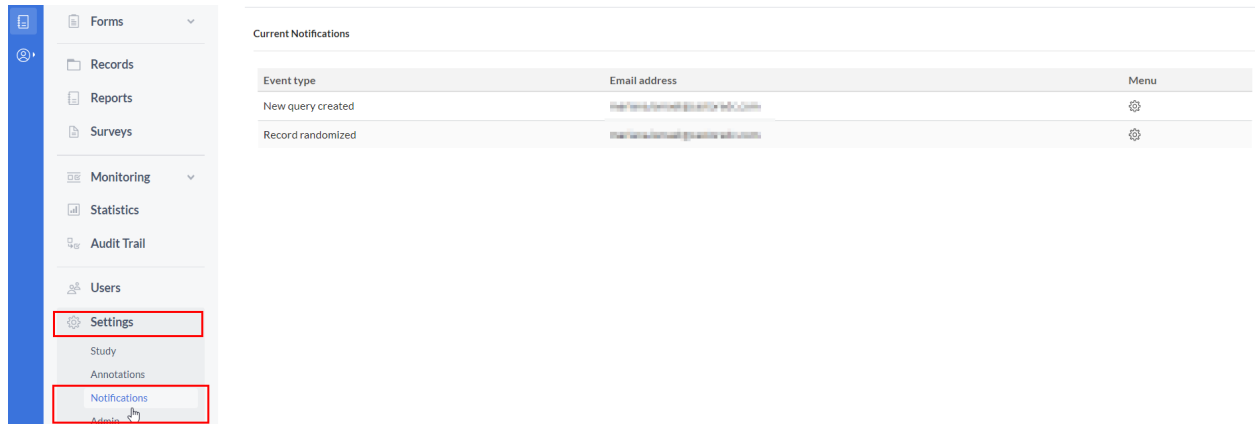
Tag	Description
{recordId}	the record id of the record for which the report was added.
{instituteName}	the institute name of the record for which the report was added.
{reportType}	the type of report that was added.
{reportCustomName}	the custom name given for the added report.
{studyName}	the name of the current study.
{userName}	the name of the user who added the report.
{userEmailAddress}	the email address of the user who added the report.
{eventDate}	the date that this event happened.
{eventTime}	the time of the day that this event happened.

Save

Cancel

1. Recipient: Choose a recipient of the notification email in the drop-down (which shows all users added to the study).
2. Filter on institute: Choose one or multiple institutes for which you want to receive the notifications (i.e. only your own hospital). Leave this field empty if you want to receive notifications for all institutes.
3. Notification template: This is the email text that will be sent when the event occurs. You can modify this as you like. The listed available tags will be replaced by their real values when the notification is sent.

4. Press the 'Save' button to save the notification or the cancel button to return to the notifications overview. This is also where you can find all current the notifications created for your study:



Signing and Locking

In order to sign or lock a phase, step, or report, it is necessary to have sign and lock user rights. One or both of these rights can be assigned to a user as they are separate rights.

Sign or unsign a phase or step

You can sign individual phases and steps. Open the record for which you want to sign steps/phases. On the left side you will find the phase and step navigator. In our example, we will sign and lock the step "Inclusion".

1. When in a record, click on a step or phase. Click on the three dots that appear to the right.
2. Click on "Sign this phase" for phases or "Sign this step" for steps.
3. Enter your password to confirm your identity. You can choose to also lock the phase/step in the same instance, to prevent further data entry. Click "Sign" to confirm and to sign the phase or step. In order to lock during signing, it is necessary to have the lock user right. For users without the lock user right, an error message will appear if they attempt to lock.

Back to records

Record

Study

Reports

Surveys

Monitoring

Randomization

Record ID: 110002

Not Live (v0.01)

Record Status: Discharged

Record: 110002

Discharged

Progress: 100%

Screening

Completed

Demographics

Completed

Diagnosis and medical history

Completed

Study inclusion

Completed

First Study Visit

Mark phase as missing

Lock this phase

Unsign this phase

Custom verification

Print this phase

Add a report to this phase

1990 (yyyy)

Female

Male

field value cannot be changed as it was used for randomization of this record.

180 cm

80 kg

24.69

Netherlands

Screening

1. Demographics

This step was signed on by

Unsign

This step was verified on by for Source Data Verification

Remove

Study Conduct

The remainder of this manual is dedicated to providing suggestions to maximize the EDC for managing your data.

Protocol Amendments

You can keep track of protocol amendments within the EDC by creating fields that document the protocol or informed consent versions. Doing this allows this information to be documented for each record.

Screening

2. Informed Consent

Consent info 1	
2.1 Enrollment Status	<input type="text"/>
2.2 Date Created	<input type="text"/> (dd-mm-yyyy)
2.3 Date invited	<input type="text"/> (dd-mm-yyyy)
2.4 ICF Version	<input type="text"/>
2.5 ICF Status	<input type="text"/>
2.6 ICF Language	<input type="text"/>
2.7 Country	United States
2.8 Site	Test Institute
2.9 Date of ICF	<input type="text"/> (dd-mm-yyyy)
Consent info 2 (Version update Only)	
2.10 ICF Version	<input type="text"/>
2.11 ICF Language	<input type="text"/>
2.12 ICF Status	<input type="text"/>

Deviations

Reports are useful for keeping track of protocol deviations.

It is recommended that the add a report button is utilized and dependencies are created where a deviation may occur.

Baseline

7. Baseline (7 +/- 2 days) Visit Date

7.1	Was visit completed?	<input checked="" type="radio"/> Yes <input type="radio"/> No	⚙️
7.1.2	Visit Date	<input type="text" value="11-09-2020"/> <input type="text" value="dd-mm-yyyy"/>	⚙️
7.2	Number of days since washout began:	<input type="text" value="10"/>	⚙️

⚠️ Visit Out of Window

7.3.1

Add a Deviation

Using the add a report button, the Protocol Deviation report will always be linked to the phase in which the report was created.

Add a report to record 110002

Report: Protocol Deviation

Custom name: Protocol Deviation - 15-09-2020 14:53:51

Attach to: Phase 2. Baseline

Create

Cancel

You are further able to create notifications on the Report Event type and choosing the Deviation Report.

Signing the Record

In a previous section, we showed you how to sign phases and steps. It is not possible to sign a record. However, you can opt to have your investigators sign off on an End of Study phase shown previously.

Record: 000001
Progress: 4%

Not Started

Screening

In Progress

Baseline

Not Started

Device Details

Not Started

Week 12

Not Started

Week 24

Completed

End of Study

End of Study
26. End of Study

This step was signed on 31/12/2020 at 15:23 by Niecy Duncan [Admin] (niecy.duncan@castoredc.com) Unsign

This step was locked on 31/12/2020 at 15:23 by Niecy Duncan [Admin] (niecy.duncan@castoredc.com) Unlock

26.1	Has the subject completed their participation in the study?	<input checked="" type="radio"/> yes <input type="radio"/> no	<a>Settings
26.1.1	Was the subject discontinued from the study?	<input checked="" type="radio"/> yes <input type="radio"/> no	<a>Settings
26.1.1.1	Date subject discontinued	<input type="text" value="17-12-2020"/> <small>(dd-mm-yyyy)</small>	<a>Settings
26.1.1.2	Reason for discontinuing	<input type="text" value="Non-compliance"/>	<a>Settings
26.1.1.3	Additional comments:	<div>misuse of study drug</div>	<a>Settings

Closeout Activities

Once a study is complete, we recommend performing the following actions:

- 1) Lock all records
- 2) Export a copy of the study data
- 3) Set the study to 'not live' in the 'Settings' tab
- 4) Remove all users and study admins can reduce their own rights. It is recommended that study admins leave themselves as the only user, and remove all user rights except 'View', 'Export', 'Manage Records', 'Manage Settings'.
- 5) Archive the study. Once the study is 'closed', you can [archive the study](#) in the 'My studies' overview, which will remove it from the overview for all users and prevent users from accessing it in future.

The data is stored for at least 25 years (depending on local laws).

Our policy is to always match relevant, local regulations. In this case, the new Clinical Trial Regulation will require the Clinical Trial Master File to be stored for 25 years. Castor will ensure that we support storage of data (including the original audit trail) for that time period unless our customers explicitly do not require us to (as they might archive it elsewhere).

Further information

View the Castor EDC video workshop at <https://workshop.castoredc.com/>.

For more information regarding data management, check Castor EDC's knowledge base: <https://helpdesk.castoredc.com>. Additional [ready-to-print instructions](#) based on user roles are also available. If you have any questions or concerns, please contact us at support@castoredc.com