

# ELSO Registry Form Submission Instructions

## Extracorporeal Life Support Organization (ELSO)

### I. Starting a New Patient Form

To begin entering a new patient, open the website [www.elso.org](http://www.elso.org) and sign in with your user name and password. This must be assigned to you by your ELSO Administrator.

Your Center home page will load. At any time in the Registry form you may click 'home' to return to this home screen. All patient data will be saved.

Note: Please refer to the ELSO Registry Data Definitions for specific details for the data fields to be entered.

Click on 'application settings' in the upper right-hand corner to set your preferences for date, time and units (including international) settings. You may also log out of the registry here.

Select any tab to find your entered registry patients, reports that are available, or export data. You may also start a new patient record.

Select this drop-down box to choose what information is displayed.

Click here to Quick Add a patient record.

Click on an icon to update the run or the patient information.

From the home page, after you have clicked 'Quick Add' or 'Add New Patient', the following screen will load. This Panel must have all information fields filled out to Add a New Patient.

Once you complete this section, and click 'Save', it will save the identifier and may be returned to later on your home page as an incomplete record. 'Cancel' will return to the home page.

For Neonatal patients, you will see additional fields available for data entry:

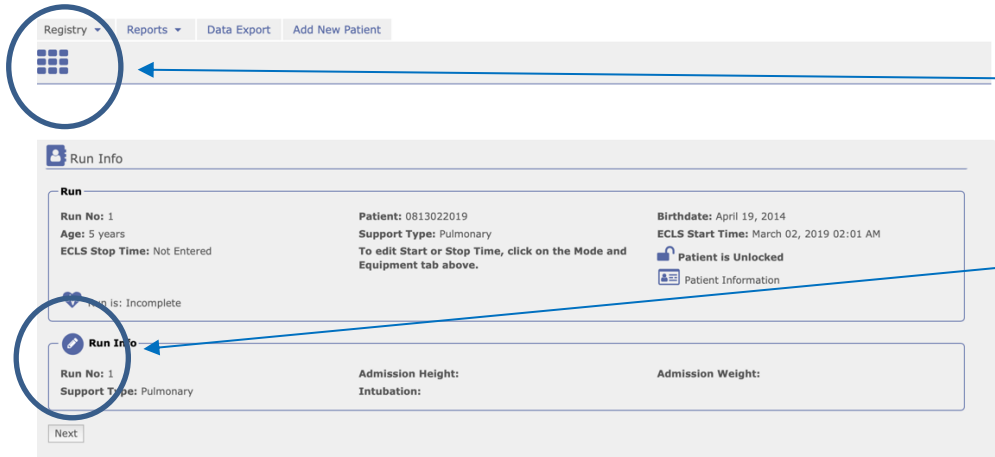
Click 'Edit' to enter information specific to neonates. Click 'Edit' to enter information specific to CDH patients.

From the home page, once you click on the icon for patient information, the following screen appears:

Click 'Edit' icon to update the patient information. You may click 'Add New Run' to add an additional run for the same patient. You may click the 'Patient Run' icon to edit the run details. This will also unlock the run for editing.

If the Patient has multiple runs, they will be listed consecutively (1, 2, 3,...). Select the icon next to the correct run to edit.

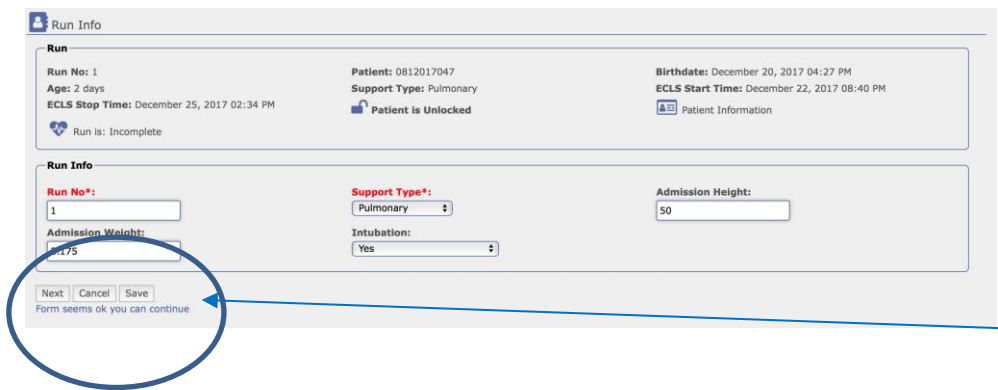
Once you have clicked on the icon for Run Info, the following screen will appear:



You may click here to select the tabs for each section of the Registry data collection.

You will also be able to edit or enter new data accordingly by selecting the icon.

Selecting 'Edit' Run Info will bring the following screen:



Once all data is entered, you may click 'Save' for all changes. The system will prompt you that mandatory fields are complete.

Click 'Next' to move to the next section. 'Cancel' will exit and not save changes.

## II. Pre -ECLS Assessment

**Pre ECLS Assessment**

**Run**  
 Run No: 1  
 Age: 1 day  
 ECLS Stop Time: June 16, 2017 12:00 AM  
 Run is: Incomplete

**Patient:** 0812016301  
**Support Type:** Pulmonary  
 To edit Start or Stop Time, click on the Mode and Equipment tab above.

**Birthdate:** December 30, 2016 12:01 AM  
**ECLS Start Time:** December 31, 2016 12:00 PM  
**Patient is Unlocked**  
 Patient Information

**Most Recent Values within 6 hours prior to ECLS**

**Arterial Blood Gases**  
 Date/Time: Oct / 10 / 2017 16 : 13  
 pH: 7.13  
 PCO2: 66 mmHg  
 PO2: 25 mmHg  
 HCO3: 20.4 mEq/L  
 SpO2: 31 %  
 SpO2: %  
 Lactate: 7.1 mmol/L  
 You can leave the data in the system as is, but these are fields outside the usual data range for SaO2 (50 and 100)

**Vent Settings**  
 Date/Time: Oct / 10 / 2017 17 : 20  
 Vent type: HFO  
 High Frequency Rate: 10 Hz  
 Amplitude/ΔP: 43 cm H<sub>2</sub>O  
 Mean Airway Pressure: 25 cm H<sub>2</sub>O  
 Hand Bagging: No  
 PEEP: cm H<sub>2</sub>O

**Hemodynamics**  
 Date/Time: Oct / 10 / 2017 20 : 44  
 Systolic BP: 35 mmHg  
 Diastolic BP: 30 mmHg  
 Mean BP: 32 mmHg  
 SvO2: %  
 PCWP: mmHg  
 Systolic PAP: mmHg  
 Diastolic PAP: mmHg  
 Mean PAP: mmHg  
 Cardiac index: L/min/m<sup>2</sup>  
 DPAP: mmHg  
 MPAP: mmHg

Back Next Cancel Save  
 Form seems ok you can continue

This page will allow you to view the information you have previously entered as well as edit the data.

Units will generate as per your settings preference (completed on the home screen).

The type of ventilator you select will populate the specific settings associated with it.

Click 'Save' then 'Next' for the next tab. 'Cancel' will not save any changes and will close the 'Edit' window.

Note: Warnings will appear in green if data entered is outside the normal ranges. If the data is not allowed, the warning will be in red (see below).

**High Frequency Rate:**  
 300 Hz  
 The High Frequency Rate is outside the range (3 and 17)  
**Mean Airway Pressure:**

Note: Hovering over the field label will display the ranges allowed in green as well as the hard limits in red.

Select Next or Save to move to the next section of the Registry.

### III. Pre -ECLS Support

Pre ECLS Support

**Run**

Run No: 1      Patient: 0812017032      Birthdate: October 10, 2017 12:00 AM  
Age: 0 day      Support Type: Pulmonary      ECLS Start Time: October 10, 2017 09:09 PM  
ECLS Stop Time: Not Entered      Patient is Unlocked      Patient Information  
Run Is: Incomplete

**Pre-ECLS Support**

Hospital Admit Date\*: 10/10/2017 14:37  
Oct / 10 / 2017 14 : 37

Patient transported to your center?  
Transported not on ECMO

Pre-ECLS Cardiac Arrest: No

Bridge to Transplant: No

Is Trauma the underlying reason this person went on ECMO? No

Back Next Cancel Save  
Form seems ok you can continue

Mechanical Cardiac Support Codes: >

Renal, Pulmonary and Other Supports Codes: >

Medications (excluding vasoactive infusions): >

Vasoactive Infusions: >

Mechanical Cardiac Support Codes: v

- Berlin Heart
- BIVAD
- Cardiac pacemaker
- Cardiopulmonary bypass CPB
- Intra-aortic balloon
- LVAD
- Percutaneous Ventricular Assist Device
- RVAD

Enter codes used for pre-ECLS Support as per the ELSO Data Sheet.

Click the drop-down list to see the list of codes – select all that apply.

## IV. ECLS Assessment

**ECLS Assessment**

**Run**  
 Run No: 1  
 Age: 0 day  
 ECLS Stop Time: Not Entered  
 Run Is: Incomplete

Patient: 0812017032  
 Support Type: Pulmonary  
 Patient is Unlocked

Birthdate: October 10, 2017 12:00 AM  
 ECLS Start Time: October 10, 2017 09:09 PM  
 Patient Information

**Values Closest to 24 hours on ECMO**

**ECLS Arterial Blood Gas**

Date/Time: Not Entered  
 Month / Day / Year Hour : Minute

FI02 (%):  
 FIO2

SaO2:  
 SaO2 %

pH:  
 pH

PO2:  
 PO2 mmHg

SpO2:  
 SpO2 %

PCO2:  
 PCO2 mmHg

HCO3:  
 HCO3 mEq/L

Lactate:  
 Lactate mmol/L

**Vent Settings**

Date/Time:  
 Month / Day / Year Hour : Minute

Vent type:  
 - Please Select -

Hand Bagging:  
 - Please Select -

**Hemodynamics**

Date/Time:  
 Month / Day / Year Hour : Minute

Mean BP:  
 MAP mmHg

Systolic PAP:  
 SPAP mmHg

Cardiac Index:  
 CI L/min/m2

Systolic BP:  
 SBP mmHg

SvO2:  
 SvO2 %

Diastolic PAP:  
 DPAP mmHg

Diastolic BP:  
 DBP mmHg

PCWP:  
 PCWP mmHg

Mean PAP:  
 MPAP mmHg

**Blood Pump Flow Units**

Pump flow at 4hrs (L/min)  
 Pumpflow4hrs

Pump flow at 24hrs (L/min)  
 Pumpflow24hrs

**ECLS Care**

ICU where ECLS received  
 - Please Select -

Maximum Level of Mobilization during ECLS  
 0 Nothing (lying in bed)

Enteral Feeding Date/Time:  
 Month / Day / Year Hour : Minute

Level of Mobilization  
 - Please Select -

Back Next Cancel Save  
 Form seems ok you can continue

Enter all data as requested.

Note: Errors in data entry will result in messages to explain. This is an example of entering a date too far in the future for the 24 hours on ECMO data.

Please correct any red messages, as they will not allow you to continue or save.

**Date/Time:**  
 Jul / 02 / 2018 01 : 02  
 This date should be AFTER the time on ECMO October 10, 2017 09:09 PM but not more than 48h.  
 This date can be AFTER the time on ECMO but no more than 30h after the time on ECMO October 10, 2017 09:09 PM  
 This date can not be in the future

Note: if you do not correct the data entry, the system prompts you with a different message at the bottom of the screen.

Back Next Cancel Save

Please complete at least the required fields or hit cancel to move to another tab.

## V. Mode and Equipment

Equipment	Manufacturer	Device
Membrane Lung		
Blood Pump		
Heat Exchanger		
Hemofilter		
Temperature Regulation		

Run Details for the Initial Mode of ECMO are loaded. Click on 'Edit' to update or enter data.

Once you select 'Edit', fields may be entered or updated.

**Manufacturer\*:**

- ✓ - Please Select -
- Bard Vascular Division
- Baxter
- Cook Critical Care
- DLP
- Edwards/ Research Medical
- Elecath
- Gesco
- Jostra USA

**Cannula\*:**

- ✓ - Please Select -
- DLP 6 Fr
- DLP 8 Fr
- DLP 10 Fr
- DLP 12 Fr
- DLP 14 Fr

Click 'Add New Cannula' to update or enter data regarding cannulas placed.

Pre-existing refers to cannulas left in-situ after CPB surgery, those present on transfer from another institution on ECLS, or left after other ECLS procedure or run.

Drop down menus will allow choice of manufacturer then type of cannula used.

Click 'Save' to continue to next data fields.

Starting Equipment is also available upon clicking 'Edit'.

Drop down menus will allow choice of manufacturer then type of device used in each category.

Note: the required fields are in red, and must be completed before you can move to another tab. Click 'Cancel' if you do not enter data at this time.

Click 'Add New Conversion' to enter a new mode of ECMO.

Note: a message will appear if you do not first enter a stop date/time for the first mode of ECMO. Click 'Close' and return to the top of the page to enter the date/time. Then click 'Add New Conversion' again.

The red titled field will load. Enter the start date/time for the new mode. Often this will be one minute later than the previously entered stop date/time. (i.e. Oct/27/2017 02:03)

Add the new cannulas for the new mode. Click 'Save' to move to the next tab.



## VI. Diagnoses

Diagnoses

**Run**

Run No: 1  
Age: 1 day  
ECLS Stop Time: June 16, 2017 12:00 AM

Patient: 0812016301  
Support Type: Pulmonary  
Patient is Unlocked

Birthdate: December 30, 2016 12:01 AM  
ECLS Start Time: December 31, 2016 12:00 PM  
Patient Information

**Diagnoses**

**Add New Diagnosis**

Back Next

Diagnoses

ICD10 Codes\*: Search

Primary Diagnosis:

Click here for common diagnoses codes list  
Press the Save button below to save this diagnosis.

ICD10Code is required

Back Cancel Save

Please complete at least the required fields or hit cancel to move to another tab

Diagnoses

ICD10 Codes\*: J10

Primary Diagnosis:

J10 Influenza due to other identified influenza virus

J10.0 Influenza due to other identified influenza virus with pneumonia

J10.00 Influenza due to other identified influenza virus with unspecified type of pneumonia

J10.01 Influenza due to other identified influenza virus with the same other identified influenza virus pneumonia

J10.08 Influenza due to other identified influenza virus with other specified pneumonia

J10.1 Influenza due to other identified influenza virus with other respiratory manifestations

J10.2 Influenza due to other identified influenza virus with gastrointestinal manifestations

J10.8 Influenza due to other identified influenza virus with other manifestations

J10.81 Influenza due to other identified influenza virus with encephalopathy

ICD10Code is required

Click 'Add New Diagnosis' to enter a new diagnosis for ECMO.

Note: Required data is in Red.

One diagnosis must be selected as the primary diagnosis. The Diagnosis Codes will be available by searching in the drop-down field. The most common ICD 10 Codes will populate as you begin to type the code.

You may enter as many diagnoses as you like.

Click 'Save' to move to the next tab. You may also 'Cancel' which will not save your work, and allow you to move to another tab.

## VII. Procedures

Procedures

Run

Run No: 1 Patient: 0812016301 Birthdate: December 30, 2016 12:01 AM  
Age: 1 day Support Type: Pulmonary ECLS Start Time: December 31, 2016 12:00 PM  
ECLS Stop Time: June 16, 2017 12:00 AM Patient is Unlocked Patient Information

Procedures

**Add New Procedure**

Back | Next

Procedures

Run

Run No: 1 Age: 5 years ECLS Stop Time: Not Entered

Run is: Incomplete

Procedures

**Add New Procedure**

Estimated: N

Back | Next

**Procedure Date\*:**  
Month / Day / Year Hour : Minute AM/PM  
Date/Time is required

**Estimated\*:**  
- Please Select - Estimated is required

**CPT Code\*:**  
Search  
- Please Select -

CPTCode is required  
[Click here for common CPT codes list](#)

Save Cancel

**CPT Codes\*:** ( )

909

- Please Select -  
25909 - Re-amputation of forearm through radius and ulna  
36909 - Permanent endovascular occlusion of dialysis circuit with r  
67909 - Reduction of overcorrection of ptosis  
69090 - Ear piercing  
90901 - Biofeedback training by any modality  
90911 - Biofeedback training of urethral sphincter including manon  
90935 - Hemodialysis procedure with single physician evaluation  
90937 - Hemodialysis procedure requiring repeated evaluations wit  
90940 - Hemodialysis access flow study

CPT Code is required

Click 'Add New Procedure' to enter a new procedure performed on ECLS.

Enter the date and time the complication occurred, and select whether this estimated.

Note: Required data is in Red.

CPT Codes are available in the drop-down field and will begin to populate as you type. Select the correct code. You may enter as many complications, or repetitive complications as you like.

'Save' to move to the next tab. You may also 'Cancel' which will not save your work, and allow you to move to another tab.

## VIII. Infections

**Infections**

**Run**

Run No: 1  
Age: 5 years  
ECLS Stop Time: Not Entered

Patient: 0813022019  
Support Type: Pulmonary  
To edit Start or Stop Time, click on the Mode and Equipment tab above.

Birthdate: April 19, 2014  
ECLS Start Time: March 02, 2019 02:01 AM  
Patient is Unlocked  
Patient Information

Run is: Incomplete

**Infections**

Does this run have any infections?\*:  
 Yes  No

[Add New Infection](#)

Back Next

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**Infections**

**Date/Time\*:**  
Month / Day / Year Hour : Minute  
Date/Time is required

**Organism Type**  
- Please Select -

**Estimated\*:**  
- Please Select -  
Estimated is required

**Organisms**  
- Please Select -

**Culture Site\*:**  
- Please Select -  
Culture Site is required  
[Click here for list of all Organisms](#)  
Press the Save button below to save this infection.

Back Next Cancel Save  
Please complete at least the required fields or hit cancel to move to another tab

Answer “Does this run have any infections”. Click ‘Add New Infection’ to enter any pre and on ECLS infections on ECLS.

Enter the date and time the culture was drawn, and select whether this estimated.

Organism types are available in the drop-down field and will populate the organisms associated with the type. Select the culture site.

Note: required data is in red. You may enter as many infections as you like.

Click ‘Next’ or ‘Save’ to move to the next tab. You may also ‘Cancel’ which will not save your work, and allow you to move to another tab.

## IX. Outcomes

**Outcome**

**Run**

<b>Run No:</b> 1	<b>Patient:</b> 0812016301	<b>Birthdate:</b> December 30, 2016 12:01 AM
<b>Age:</b> 1 day	<b>Support Type:</b> Pulmonary	<b>ECLS Start Time:</b> December 31, 2016 12:00 PM
<b>ECLS Stop Time:</b> June 16, 2017 12:00 AM	<b>Patient is Unlocked</b>	<b>Patient Information</b>

Run is: Incomplete

**Outcome**

<b>Discontinuation reason:</b>	<b>Extubated:</b>	<b>Oral endotracheal tube removal:</b> Not Entered
<b>Cannula site repair:</b>	<b>Discharged Alive:</b>	<b>ICU Discharge Date:</b> Not Entered
<b>Discharge Date:</b> Not Entered	<b>Discharge Location:</b>	<b>Death Date:</b> Not Entered

**Outcome**

<b>Discontinuation:</b> - Please Select -	<b>Extubated:</b> - Please Select -	<b>Oral endotracheal tube removal:</b> Month / Day / Year Hour : Minute
<b>Discharged alive*:</b> - Please Select - <i>Discharged Alive is required</i>	<b>ICU Discharge Date:</b> Month / Day / Year Hour : Minute	<b>Cannula site repair:</b> - Please Select -
	<b>Discharge Location:</b> - Please Select -	<b>Discharge Date*:</b> Month / Day / Year Hour : Minute <i>Discharge Date is required</i>
		<b>Death Date:</b> Month / Day / Year Hour : Minute

Back Next Cancel Save

Please complete at least the required fields or hit cancel to move to another tab

Click 'Edit' to enter the outcome data for this patient.

Note: required data is in red.

'Save' to move to the next tab. You may also 'Cancel' which will not save your work, and allow you to move to another tab.

## X. Addenda

The screenshot shows the 'Addenda' interface for a patient. The 'Run' section includes: Run No: 1, Age: 1 day, ECLS Stop Time: June 16, 2017 12:00 AM, Patient: 0812016301, Support Type: Pulmonary, Patient is Unlocked, Birthdate: December 30, 2016 12:01 AM, ECLS Start Time: December 31, 2016 12:00 PM, and Patient Information. The 'Procedures' section has buttons for 'Add Cardiac', 'Add ECPR', and 'Add Severity Scores'. Below is a table of 'Addendum Type' with 'ECPR' and 'Cardiac' listed. A blue circle highlights the 'Add ECPR' button and the 'ECPR' row in the table. A blue arrow points from the 'ECPR' row to the 'ECPR Addendum' form below.

**ECPR Addendum**

**Preliminary**

ECLS System:	Arrest Location:	Cannulation Location:
Witnessed:	Initial Rhythm:	Cardioversion:

**Code Times**

**Circulation**

ROSC: No	ROSC Time:	Worst Blood Pressure During Resuscitation: N/A
Worst SBP:	Worst DBP:	Worst MBP:
Best Blood Pressure During Resuscitation: N/A	Best SBP:	Best DBP:
Best MBP:	Worst pH:	Best pH:

**Prime**

Circuit prime:	Volume management:	Hct prior to ECLS:
Date/Time of hct:	1st hct on ECLS:	Time to Hct 32:

Addenda sheets are available for you to enter additional data for your patient. Please select the correct addenda sheet.

Once you add it, or if you have already started a sheet, it will be listed under addendum type.

Select here to enter data on the ECPR sheet. You may also delete the sheet.

Select 'Edit' to enter the information requested.

## XI. Submission

**Submission**

**Run**

Run No: 1  
Age: 1 day  
ECLS Stop Time: June 16, 2017 12:00 AM  
Run is: Incomplete

Patient: 0812016301  
Support Type: Pulmonary  
Patient is Unlocked

Birthdate: December 30, 2016 12:01 AM  
ECLS Start Time: December 31, 2016 12:00 PM  
Patient Information

**Submission**

Completed by: \_\_\_\_\_  
Completed date: \_\_\_\_\_

**Submission**

Completed by:

Note: The Completed date is added automatically when you submit this run.

Validate Data

Back Cancel Save  
Form seems ok you can continue

Click 'Edit' to complete the submission process for your patient record.

Enter the name who completed the form, the date will automatically add.

Click 'Validate Data'. The program will review all data entered to verify no errors. If errors occur, you will be directed to the errors that need correction.

Once data is validated, click 'submit and lock'. No further data entry will be allowed until the record is unlocked.

Pre ECLS Support  
**Hospital Admit Date is required.**  
Outcome  
**Discharge Date must have some value.**  
**Discharge Alive must have some value**  
Submission  
**The Completed by field is required.**