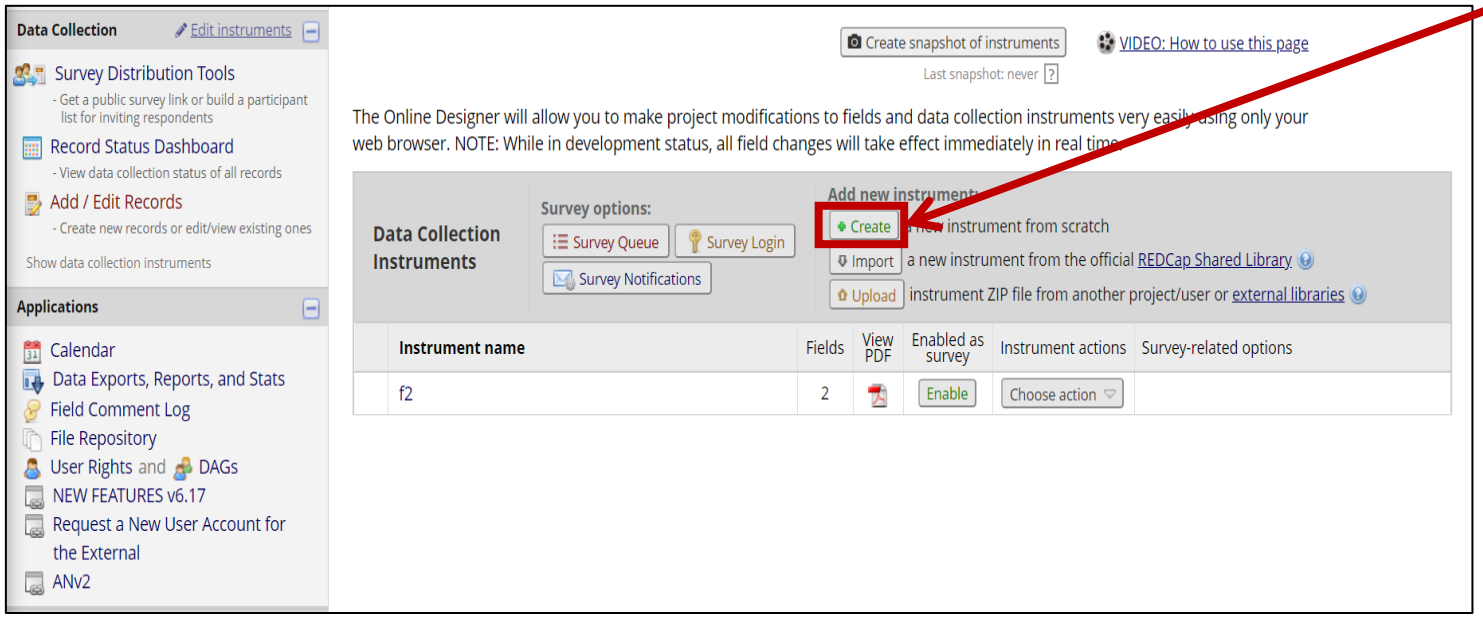
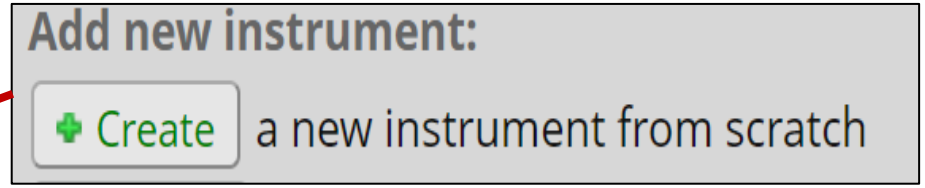
Setting Up The CREDI Long Form in REDCap

Create an Instrument

- Go To Project Setup > Online Designer. You should see the page below.
- Click “Create” and name your instrument “CREDI Long Form”.
  - You can change the position of the instrument by dragging and dropping it to your desired location.



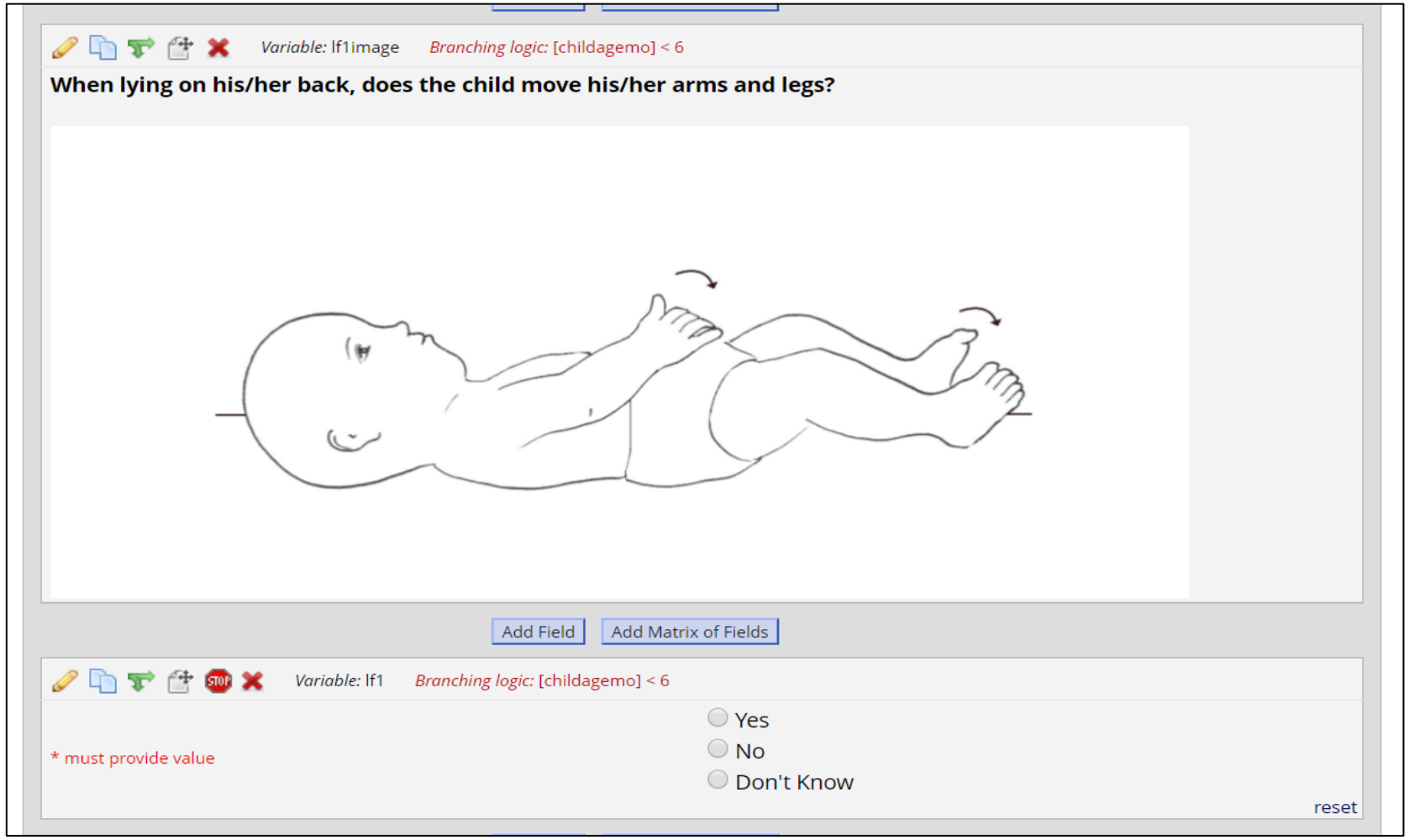


Add Field

- Select “Add New Field” > “Multiple Choice, Radio Buttons (Single Answer)”.
- If there is no image accompanying the question, enter the question text into “Field Label”.
- In the answer choices, code the following on different lines:
  - 0, Yes
  - 1, No
  - 9, Don’t Know
- It’s essential that you code these the same way as above. This is important for creating START and STOP rules later.

Adding Images

- Some questions in CREDI Long Form are accompanied by images.
  - Simple Radio Button fields do not allow for you to add images.
- Create a Descriptive Field.
  - Enter the question text into the “Field Label”.
  - Attach the image in the “Upload Document” section.
  - Select the “Inline Image” option.
- Create a corresponding radio button question below. See next slide for example.



- Make sure to name the variables appropriately. E.g. LF1 on the CREDI Long Form is named lf1image and lf1 in the REDCap.

Reverse Coding

- Note that two of the CREDI Long Form Items are reverse coded.
  - LF 9 and LF102 in the CREDI LF 2018.
- To reverse code, for the answer choices you will code the following:
  - 1, Yes
  - 0, No
  - 9, Don’t Know
- You may also leave the answer choices the same as the other questions and reverse code in Excel when you pull the results from REDCap.

Creating Start and Stop Rules

- First, make sure that each CREDI question appears on a different page in the survey.
  - To do this, create a new “Section” between every question.
  - Below the question you just created, go to “Add Field” > “Begin new Section”. A thin yellow box will then appear underneath the question.
    *NOTE: An error message will pop up if you try to have this as the last section on the survey. Create a few questions before doing this.

Add New Field

You may add a new project field to this data collection instrument by completing the fields below and clicking the Save button at the bottom. When you add a new field, it will be added to the form on this page. For an overview of the different field types available, you may view the Field Types video (4 min).

Field Type: ---- Select a Type of Field ----

- Text Box (Short Text, Number, Date/Time, ...)
- Notes Box (Paragraph Text)
- Calculated Field
- Multiple Choice - Drop-down List (Single Answer)
- Multiple Choice - Radio Buttons (Single Answer)
- Checkboxes (Multiple Answers)
- Yes - No
- True - False
- Signature (draw signature with mouse or finger)
- File Upload (for users to upload files)
- Slider / Visual Analog Scale
- Descriptive Text (with optional Image/Video/Audio/File Attachment)
- Begin New Section (with optional text)

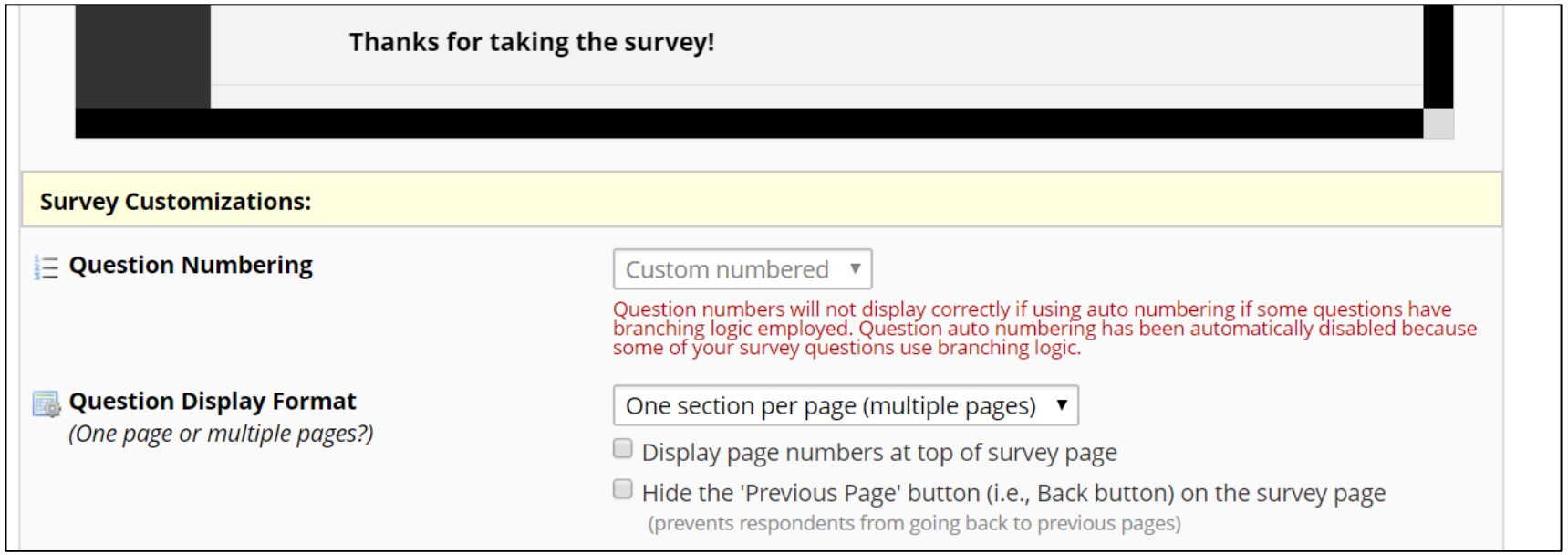
View equation

Add Field | Add Matrix of Fields

Variable: lf2image *Branching logic:* [childagemo] < 6

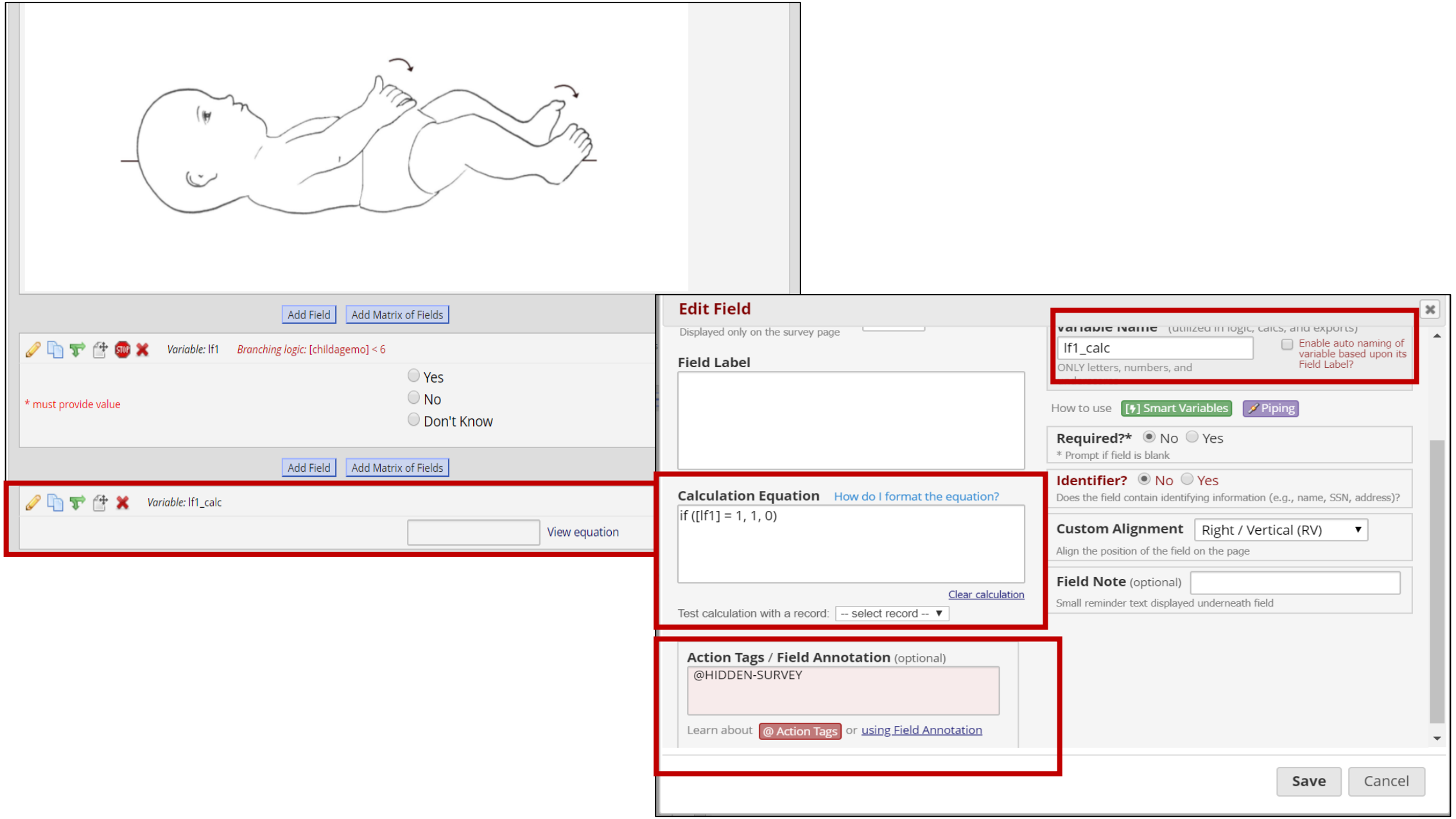
Does the child bring his/her hand to his/her mouth?

- The next step is to enable your measure as a survey and edit the survey settings.
- To do this, return to your list of instruments in the Online Designer.
- Click the “Enable” button.
  - This will take you to a Survey Settings page.
  - Under “Survey Customizations” > “Question Display Format”, select “One Section per Page (Multiple Pages)”.
- Save Changes at the bottom of the page.



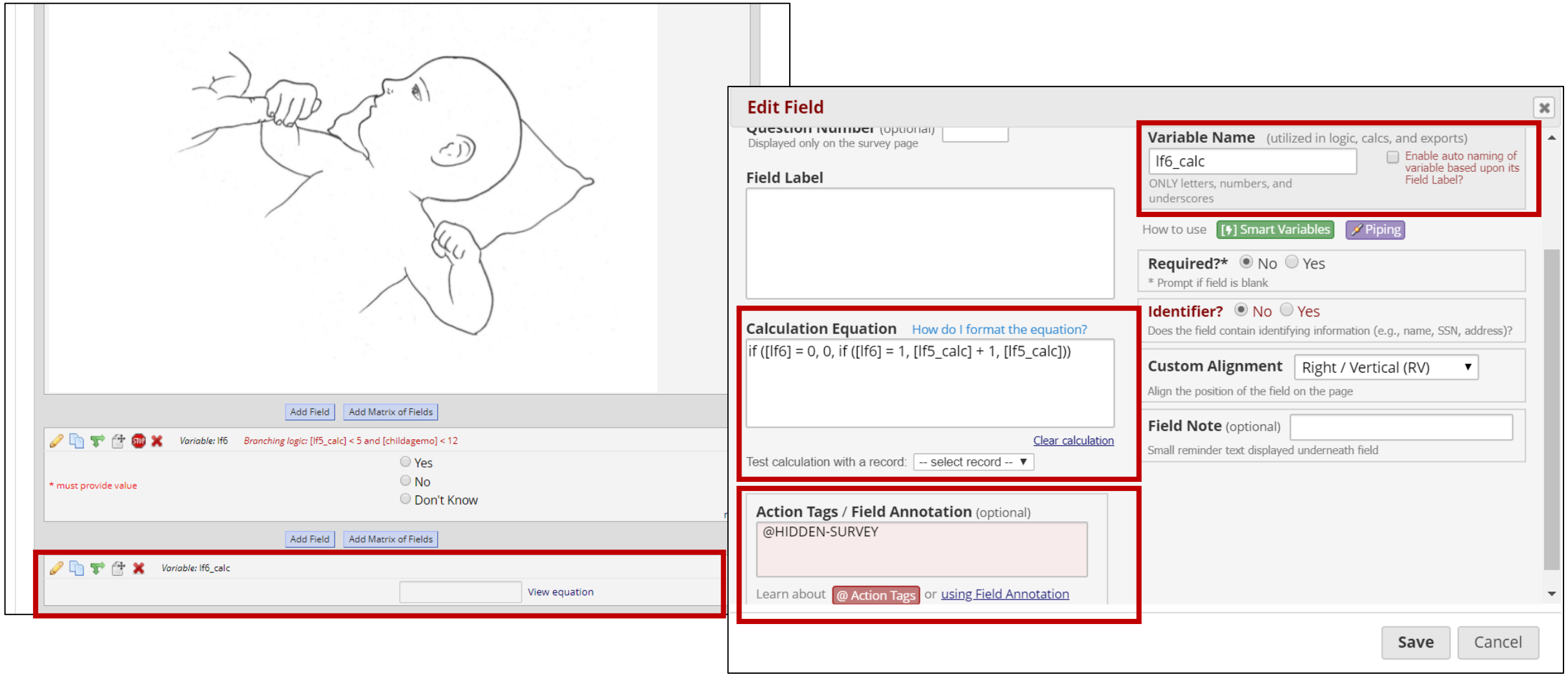
Adding Calculated Fields

- To enable START and STOP rules, we will need to create calculated fields using REDCap.
- Add a new field under the radio button response question and choose “Calculated Field” from the drop–down.
  - Name the calculated field according to the question before it, e.g. lf1_calc.
- Assuming you’re using the lf1, lf2 naming conventions, your first calculated field calculated equation should be: if ([lf1] = 1, 1, 0).
  - If you’ve named your fields something else, place the name of that variable into the square brackets and keep everything else the same.
- In the “Action Tags” field, select “@HIDDEN-SURVEY”. This will prevent the calculated field from being shown to participants.


Add Field
Add Matrix of Fields
Variable: lf1
Branching logic: [childagemo] < 6
* must provide value
Yes
No
Don't Know
Add Field
Add Matrix of Fields
Variable: lf1_calc
View equation
Edit Field
Displayed only on the survey page
Field Label
Variable Name (utilized in logic, calcs, and exports)
lf1_calc
ONLY letters, numbers, and
Enable auto naming of variable based upon its Field Label?
How to use
[ϟ] Smart Variables
Piping
Required?* No Yes
* Prompt if field is blank
Calculation Equation
How do I format the equation?
if ([lf1] = 1, 1, 0)
Clear calculation
Test calculation with a record: -- select record --
Identifier? No Yes
Does the field contain identifying information (e.g., name, SSN, address)?
Custom Alignment
Right / Vertical (RV)
Align the position of the field on the page
Field Note (optional)
Small reminder text displayed underneath field
Action Tags / Field Annotation (optional)
@HIDDEN-SURVEY
Learn about
@ Action Tags
or using Field Annotation
Save
Cancel

Calculated Fields cont.

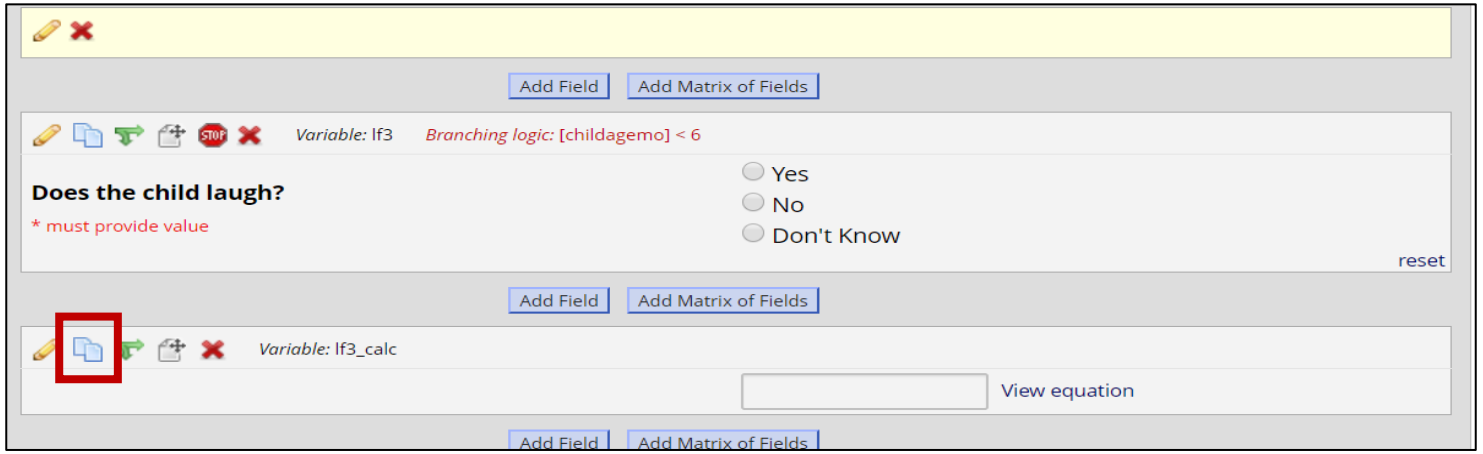
- For all of the following questions, we will create calculated fields using the following equation:
  - if ([lf2] = 0, 0, if ([lf2] = 1, [lf1_calc] + 1, [lf1_calc]))
  - Every time you create a new calculated field, you will need to edit the values in the square brackets. The equation above is for the lf2_calc field that comes after CREDI question lf2. Below is an example of how we would edit this for the field lf_5 calc, which follows CREDI question lf5.
  - if ([lf5] = 0, 0, if ([lf5] = 1, [lf4_calc] + 1, [lf4_calc]))
  - The first two sets of square brackets must contain the variable name of the question the calculated field is being created for. In this case, lf5.
  - The second set of square brackets will contain the “calc” variable name of the previous question.
- See the next page for a screenshotted example of what this would look like for lf6_calc.



- Make sure to add the "@HIDDEN-SURVEY" tag to *every calculated field,* otherwise they will be visible to participants.

Copying Calculated Fields

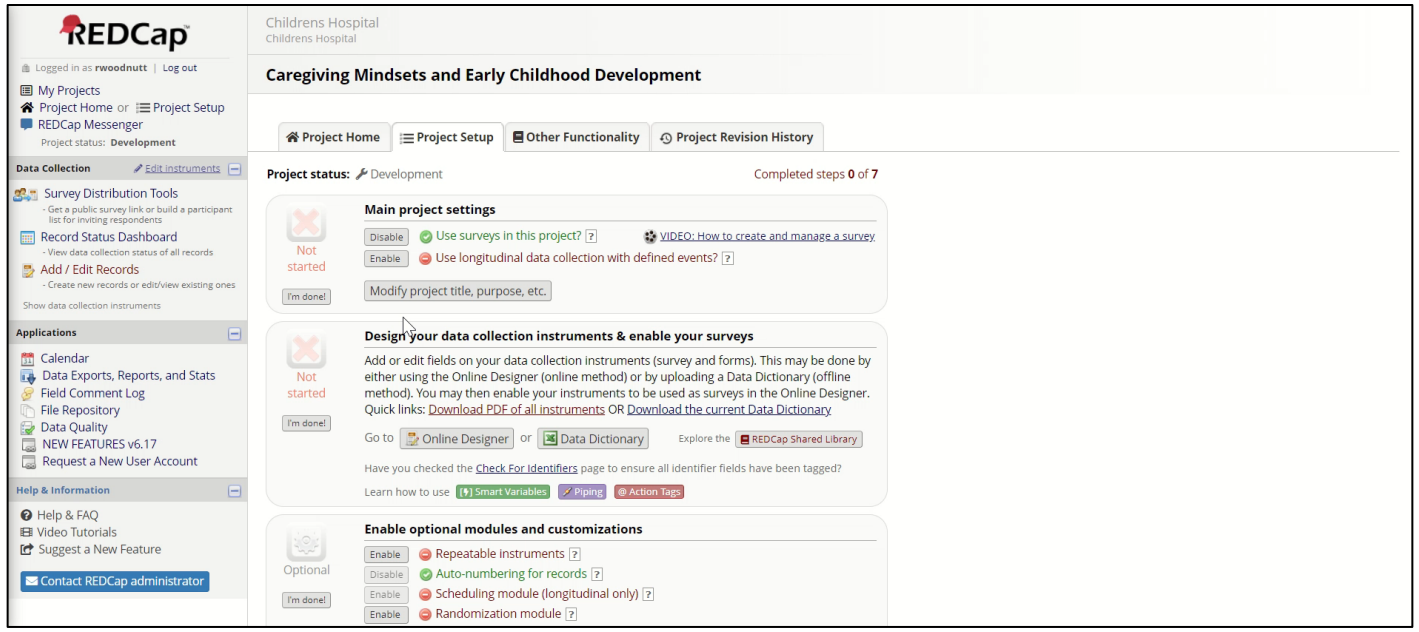
- The easiest way to create the rest of the calculated fields it to “Copy Field” and then edit the equations.
  - This way, the “@HIDDEN-SURVEY” tag will already exist, and the format of the calculation will already be in place.
  - You will also need to change the *name* of the variable to match the CREDI questions that came before it. E.g. lf18_calc.



Test Field Equations

- To test the field equations while the survey is still in development, go to “Add/Edit Records” > “Add New Record”.
- If you created a separate instrument to collect the child’s age, you should enter this information first so the CREDI START rules will take effect. For this presentation, the child is 13 months old.
- Now select your CREDI Long Form Instrument for data entry.
- You will notice that the form will start with lf11, and when we select five “No”s in a row, the rest of the questions disappear.
- The “equation” next to the lf_calc fields will increase by 1 each time you select “No” (and “Yes” for the reverse-coded fields). Ensure this works for each question.

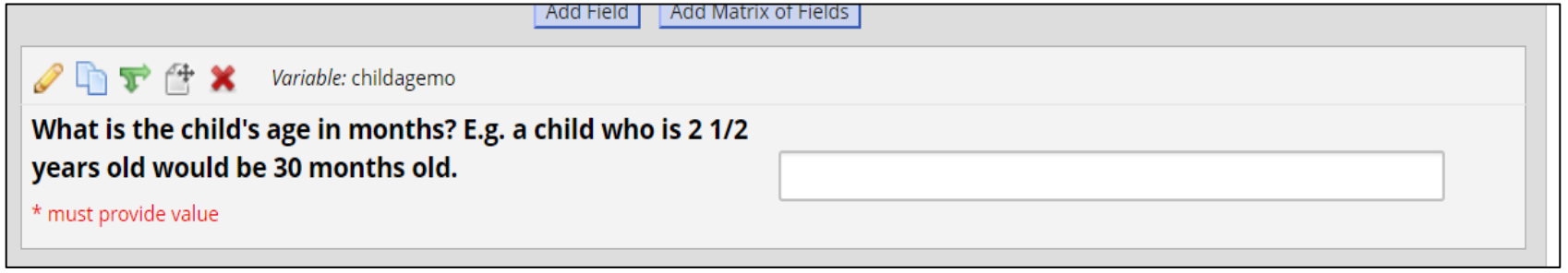
Screen Recording of Testing Field Equations



- Note that, if the participant selects four “No’s” and then a “Yes”, the counter in the calculated field should reset to 0. If it does not, please check your calculation equations.

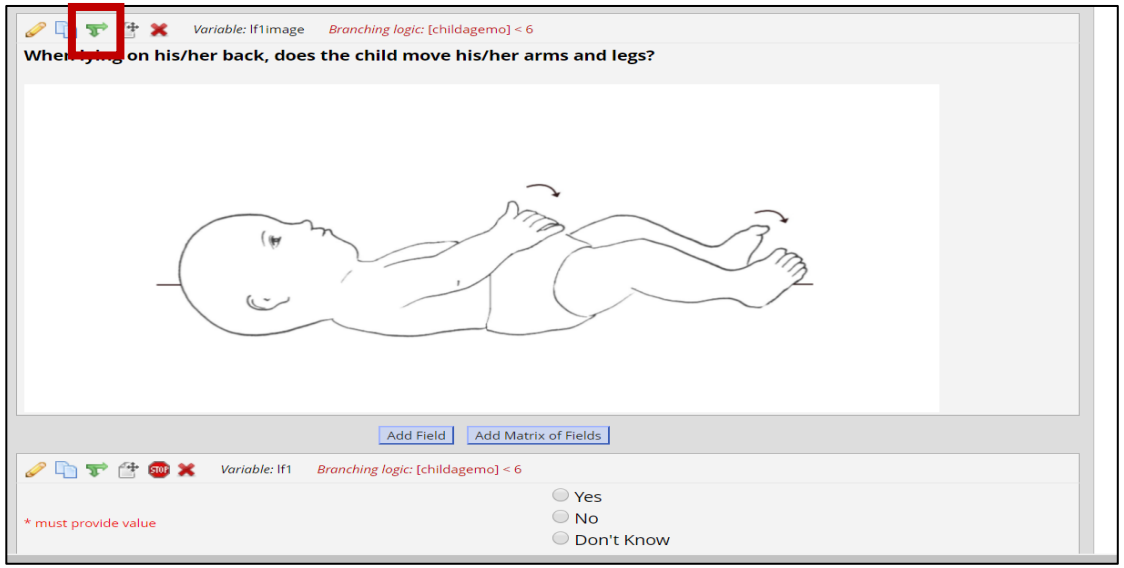
Adding Branching Logic

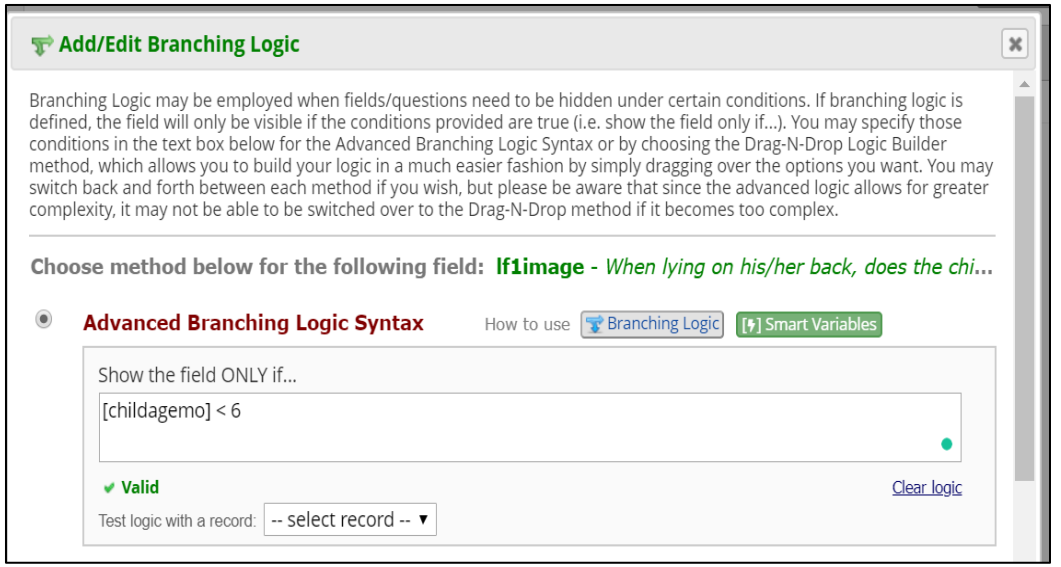
- This is the last step before testing our CREDI Long Form.
- Branching logic is essential to START rules.
- To start, you will want to ensure that you ask participants for the child's age, either at the start of the CREDI or in a different instrument altogether.
- Name the variable something like "childagemo". That is the variable name used in this presentation.



Branching Logic Cont.

- Select the two green arrows on the top left of each question.
- For the first **five** questions, the branching logic will simply say this:
  - [childagemo] < 6. This is the upper limit of the age range for the first set of questions in the CREDI, plus one on the upper limit (i.e. 0-5 months, plus one).
- You should apply the branching logic to both the images and the questions, when relevant. You do not need to add it to calculated fields.

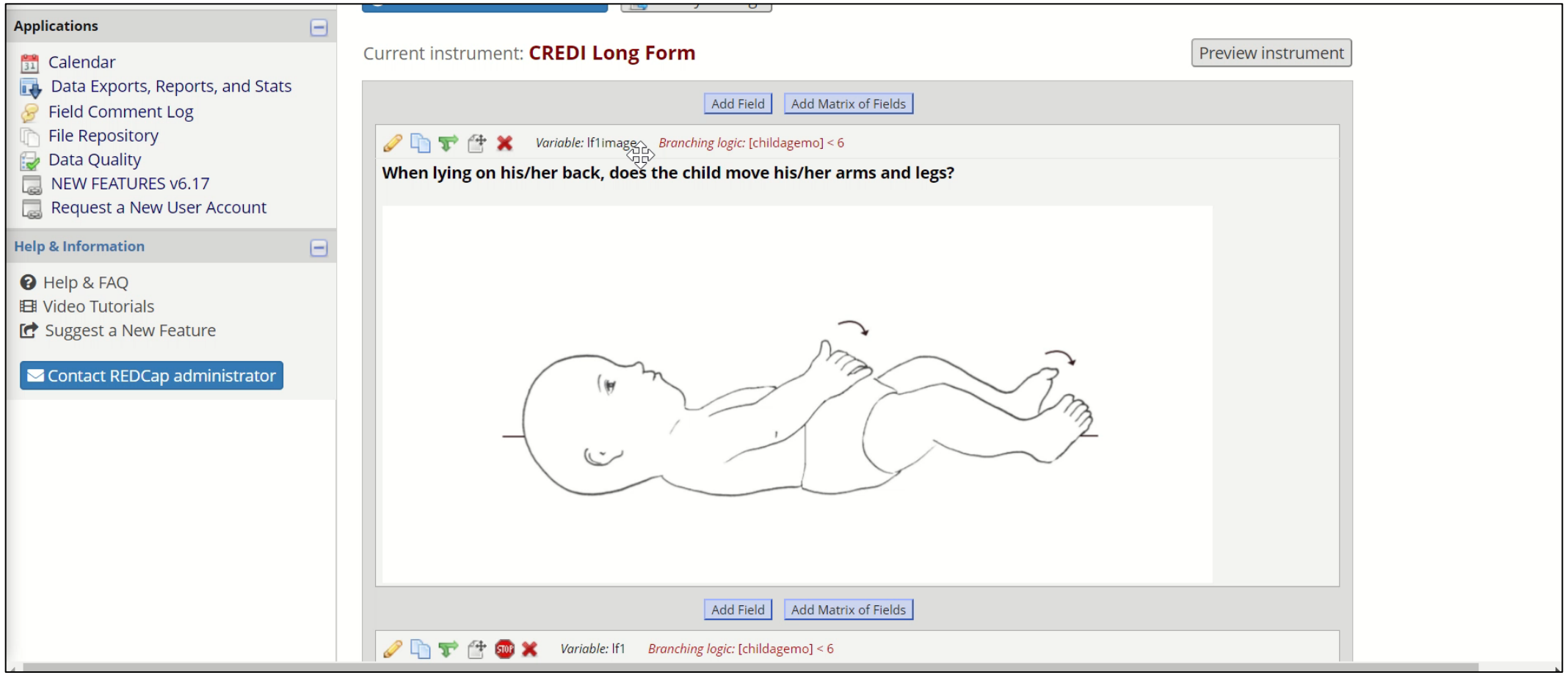




Branching Logic Cont.

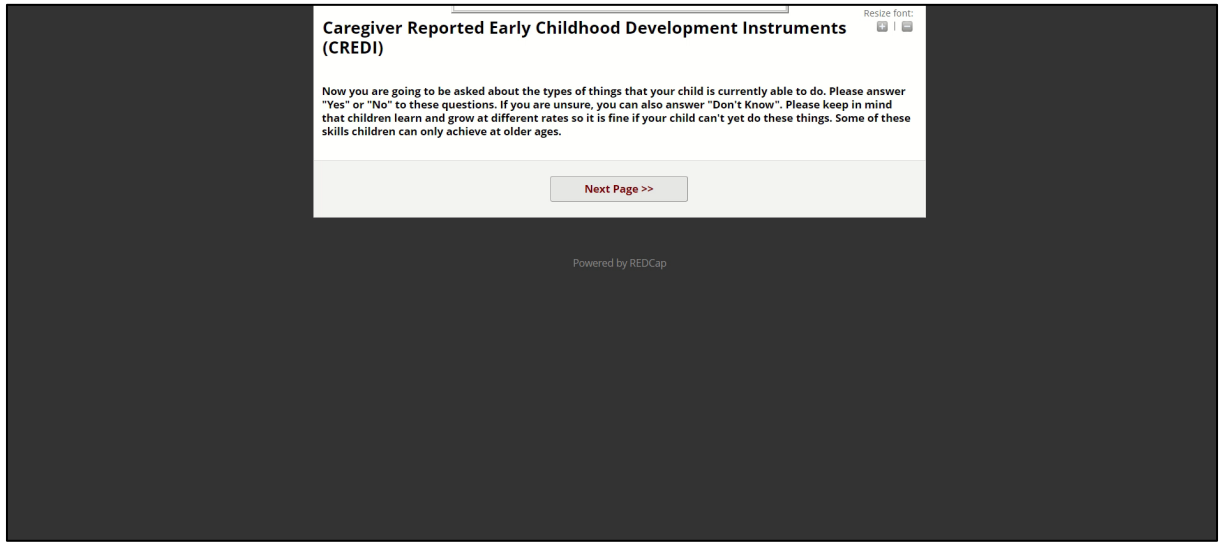
- For all of the following branching logic, the logic will look like this:
  - [lf5_calc] < 5 and [childagemo] < 12
- The equation above is for lf6. Each time you add branching logic to a question you will need to change the lf_calc in the square brackets and the upper age limit denoted by “childagemo”.
  - For example, if we were creating branching logic for lf11, it would be: [lf10_calc] < 5 and [childagemo] < 18.
  - This is telling REDCap that if there are 5 “No” responses before this question, to not display the question and close the survey (STOP rule).
  - It is also telling REDCap that, if the child is less than 18 months old (but above 12 months old, as denoted by the lf_5 calc branching logic) , then the survey should begin with question 11 (the age range for starting at question 11 is 12-17 months, so this is the upper limit, plus one). You should always observe the age range listed on the CREDI Long Form when creating branching logic.

Screen Recording of CREDI Branching Logic



Test the START and STOP Rules Thoroughly

- To do this, go to “Survey Distribution Tools” on the left side of REDCap and then click “Open Survey”. This will show you what the survey will look like to a participant.
- Below is a screen recording of the START and STOP rules working for a child who is 13 months old (i.e. the CREDI starts at lf11).



Important Notes

- Do not include attention checks in the CREDI. This will interfere with our calculated fields as well as the START and STOP rules.
- Test the CREDI multiple times using every age range up to 36 months old.
- Bear in mind that reverse coded items will also contribute to STOP rules, in that if the participant checks “No” four times before lf9 or lf102 and then checks “Yes” on one of these items, REDCap will count it as a “No” response and the survey will stop.
- For any other questions, contact your REDCap Resource Team.