

MITRE / FLUX NOTES **CONCEPTS v16.1 – TDP & Summary Reorg., Capture guidance**
DANIEL REEVES, JUHAN SONIN, 21.Mar.2019

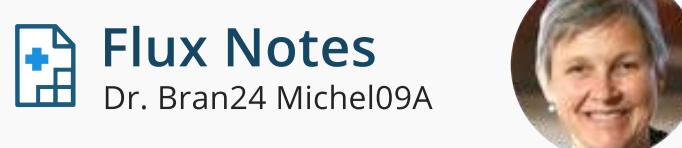


I

REORGANIZATION & INTERACTIONS

Concepts:

1. TDP Reorganization - patient vs. condition information
2. Summary sections reorganization
3. Element interactions and navigation



Patient Summary

Visit reason Ms. Hernandez98 requested a follow up due to significant diarrhea and fatigue, despite anti-diarrheal treatment, that makes it hard for him to do daily activities

Something else The value

Active conditions

Gastrointestinal stromal tumor (selected)	25 Dec 2016	stomach
Fracture	10 Mar 2019	bone structure of left fibular

Recent appointments

You last saw this patient	10 Feb 2019
reason for that visit	follow-up
Last visit to this practice	11 Mar 2019
clinician who saw patient	Dr. Edward Green

Should it include any allergies? Are there "most critical" allergis to know?

Conditions provide integrated way to navigate conditions. This replaces the need for active condition section in the record below (historical conditions may still be needed).

Condition summary is redesigned to bring the CURRENT STATE forward, such as status and treatment.

"Status" and "Disease status | status" is confusing

Specific fields are similar to those vetted for Compass, but will need to be confirmed again.

Sections, and to some extent fields, are generic across types of cancer types ("Genomics" and "Biomarkers" as keys, rather than Her2, etc.)

Patient and Condition Super-sections are divided. A small divider is included in the minimap as well.

Condition Summary Gastrointestinal stromal tumor

Name	Invasive ductal carcinoma of breast		
Location	Stomach		
Status	Remission		
Genomics	KIT exon 11 mutation+		
Biomarkers			
Disease status	go to disease status		
Status	Complete response		
As of	24 Jan 2019		
Rationale	missing		
Treatment	go to medications		
Imatinib 400mg tablet, 1 tablet, QD as needed	22 Dec 2016		
Key toxicities			
Headaches	Grade 2	24 Jan 2019	units are presented in separate column
Skin Rashes	Grade 2	24 Jan 2019	
Diarrhea	Grade 2	24 Jan 2019	

Diagnosis			
Diagnosis date	25 Dec 2016		
Recurrence date	N/A		
Mitosis	20 per 50 HPF		
Tumor size	8 cm		
Histological grade	2 (moderately differentiated)		
Clinical stage	IIIA		
Pathological stage	missing		
Lab results	go to lab results		
White blood cell	1.8	(10 ⁹ /L)	24 Jan 2019
Neutrophil	4.2	(10 ⁹ /L)	24 Jan 2019
Platelet count	210	(10 ⁹ /L)	24 Jan 2019
Hemoglobin	14.8	(g/dL)	8 Feb 2019

Patient and Condition Super-sections are divided. A small divider is included in the minimap as well.

Patient

Allergies

None

Vitals

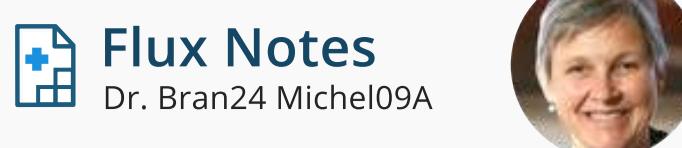
Medications

Review of Systems

Gastrointestinal stromal tumor ▾

Disease Status

Condition label is no longer present on each section



Patient Summary

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menu option: see source note

click to change active condition to "Fracture".

Condition Summary

Gastrointestinal stromal tumor

Name	Invasive ductal carcinoma of breast
Location	Stomach
Status	Remission
Genomics	KIT exon 11 mutation+
Biomarkers	
Disease status	go to disease status
Status	Complete response
As of	24 Jan 2019
Rationale	missing
Treatment	go to medications
Imatinib 400mg tablet, 1 tablet, QD as needed	22 Dec 2016
Key toxicities	
Headaches	Grade 2
Skin Rashes	Grade 2
Diarrhea	Grade 2

Diagnosis	
Diagnosis date	25 Dec 2016
Recurrence date	N/A
Mitosis	20 per 50 HPF
Tumor size	8 cm
Histological grade	2 (moderately differentiated)
Clinical stage	IIIA
Pathological stage	missing
Lab results	go to lab results
White blood cell	1.8 ($10^9/L$)
Neutrophil	4.2 ($10^9/L$)
Platelet count	210 ($10^9/L$)
Hemoglobin	14.8 (g/dL)

menu option: go to Disease Status

menu option: go to Genetics

click to view all labs

menu option: go to labs

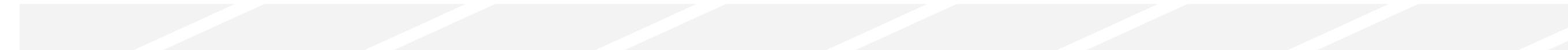
menu option: go to medications

Patient

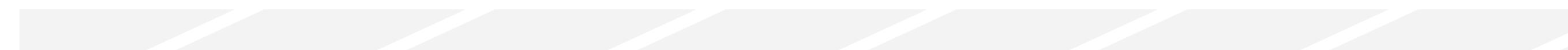
Allergies

None

Vitals



Medications



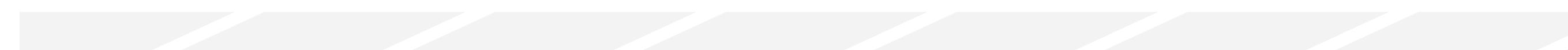
Review of Systems

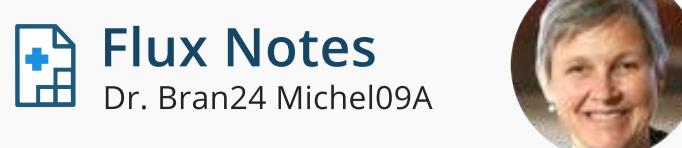


Gastrointestinal stromal tumor

another place to change condition focus

Disease Status





Patient Summary

Visit reason Ms. Hernandez98 requested a follow up due to significant diarrhea and fatigue, despite anti-diarrheal treatment, that makes it hard for him to do daily activities

Something else The value

Active conditions

Gastrointestinal stromal tumor (selected)	25 Dec 2016	stomach
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Condition Summary

Gastrointestinal stromal tumor

Name	Invasive ductal carcinoma of breast	Diagnosis	
Location	Stomach	Diagnosis date	25 Dec 2016
Status	Remis.	ence date	N/A
Genomics	KIT ex	20 per 50 HPF	
Biomarkers		size	8 cm
Disease status		surgical grade	2 (moderately differentiated)
Status	Comp	stage	IIIA
As of	24 Jan 2019	gical stage	missing
Rationale	patho	ults	
Treatment		lood cell	go to lab results
• Imatinib 400mg tablet, 1 tablet, QD as needed	22 Dec 2016	Neutrophil	
Key toxicities		Platelet count	
Headaches	Gr	Hemoglobin	
Skin Rashes	Gr		
Diarrhea	Gr		

Invasive ductal carcinoma of breast
The patient's disease is presenting a complete response
same status since: 2 Feb 2018
→ go to Disease status
open source note Dr. Freedom Brown 31 Aug 2013
open pathology report Dr. Pat Hology 27 Jul 2013

go to medications

changed from Imatinib 200mg tablet, 22 Dec 2016, due to ineffective

→ go to Medications
open source note Dr. Freedom Brown 31 Aug 2013

① Minor drug interaction between imatinib and citalopram.

→ go to Medications

open source note Dr. Freedom Brown 31 Aug 2013

Patient

Allergies

None

Vitals

Medications

Ibuprofen 200 mg tablet

2 tablets

① outside recommended range

The maximum recommended dosage is 1 tablet.

Re: switch to related condition

Fracture

G: open source note

Dr. Freedom Brown 31 Aug 2013

increased from 1 tablet TID on 13 Nov '17

2 refills remaining

prescribed: 13 Nov 2017

9a

→ go to Timeline

open source note

Dr. Freedom Brown 31 Aug 2013

insert "13 Nov 2017"

copy "ibuprofen 200 mg tablet, 2 tablets..."

→ go to Timeline

open source note

Dr. Freedom Brown 31 Aug 2013

- Disease status:
- navigate to section
 - open source note
 - open relevant resource
 - describe status
 - give some key timeline data
 - show timeline?

- Treatment
- navigate to section
 - open source note
 - show medication change
 - show outside range warning if applicable
 - drug interactions

- Labs
- navigate to section
 - open lab report
 - show outside range warning if applicable
 - show trend

- Medications
- navigate to timeline from medication change
 - show outside range warnings
 - show related condition and navigate to condition

- If authoring a note
- command to insert structured data into text
 - command to copy structured data to clipboard
 - commands to insert or copy entire element

2

USER GUIDANCE FOR # CAPTURES

Concepts:

1. “get help” prompts with options
2. expand into unfinished # phrases
3. open GUI

Guidance prompt

Appears after a short delay if a # or @ phrase has not been started.

Considerations:

- does it go away if a different word is started after # phrase, such as "is"?

I think NO. It stays.

- does it reappear after a # or @ is successfully captured?

I think No. It does not return. But perhaps TAB always brings it up?

- To minimize intrusiveness, do not select the action by default. Require a keyboard down or tab.

Progress note

signed by: Dr. Bran24 Michel09A started date: 10 April 2018
source: Dana Farber Cancer Institute

B / U ⌘ ⌘ | Invasive ductal carcinoma of breast | disease status

Allergies
no allergies

> Medications
imatinib 100 mg capsule QD started 10 Aug 2017...

Assessment
Patient #disease status|

Plan

[get help with disease status >](#)

Templates
Shortcuts
Placeholders

Disease status - status
#complete response
#complete resection
#responding
Disease status - reason
#pathology
#imaging
#symptoms
#physical exam
Disease status
#reference data
#as of

keyboard down or tab to select help

Progress note

signed by: Dr. Bran24 Michel09A started date: 10 April 2018
source: Dana Farber Cancer Institute

B / U ⌘ ⌘ | Invasive ductal carcinoma of breast | disease status

Allergies
no allergies

> Medications
imatinib 100 mg capsule QD started 10 Aug 2017...

Assessment
Patient #disease status|

Plan

[get help with disease status >](#)

[expand](#)

[open GUI](#)

Templates
Shortcuts
Placeholders

Disease status - status
#complete response
#complete resection
#responding
Disease status - reason
#pathology
#imaging
#symptoms
#physical exam
Disease status
#reference data
#as of

select "expand"

select "open GUI"

Progress note

signed by: Dr. Bran24 Michel09A started date: 10 April 2018
source: Dana Farber Cancer Institute

B / U ⌘ ⌘ | Invasive ductal carcinoma of breast | disease status

Allergies
no allergies

> Medications
imatinib 100 mg capsule QD started 10 Aug 2017...

Assessment
4 • Patient #disease status is #status due to #reason relative to #reference date as of #as of.|

Plan

[get help with disease status >](#)

Templates
Shortcuts
Placeholders

Disease status - status
#complete response
#complete resection
#responding
Disease status - reason
#pathology
#imaging
#symptoms
#physical exam
Disease status
#reference data
#as of

Progress note

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B / U ⌘ ⌘ | Invasive ductal carcinoma of breast | disease status

Allergies
no allergies

> Medications
imatinib 100 mg capsule QD started 10 Aug 2017...

Assessment
4 • Patient #disease status is #status due to #reason relative to #reference date as of #as of.|

Plan

[complete response](#)

complete resection
stable
progressing

Templates
Shortcuts
Placeholders

Disease status - status
#complete response
#complete resection
#responding
Disease status - reason
#pathology
#imaging
#symptoms
#physical exam
Disease status
#reference data
#as of

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B / U ⌘ ⌘ | Invasive ductal carcinoma of breast | disease status

Allergies
no allergies

> Medications
imatinib 100 mg capsule QD started 10 Aug 2017...

Assessment
Patient #disease status

Plan

disease status is Complete Response

[done](#)

Status	Complete response	Complete resection	Responding	Stable
	Progressing	Inevaluable		

Rationale (select multiple)

Pathology	Imaging	Markers	Symptoms	Physical exam
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Reference Date [select a date](#)

As of Date [Nov. 28, 2018](#)

Templates
Shortcuts
Placeholders

Disease status - status
#complete response
#complete resection
#responding
Disease status - reason
#pathology
#imaging
#symptoms
#physical exam
Disease status
#reference data
#as of

3

LAB AND VITALS

Concepts:

1. compactness
2. coloring & ranges
3. connectivity
4. recent value and selecting values

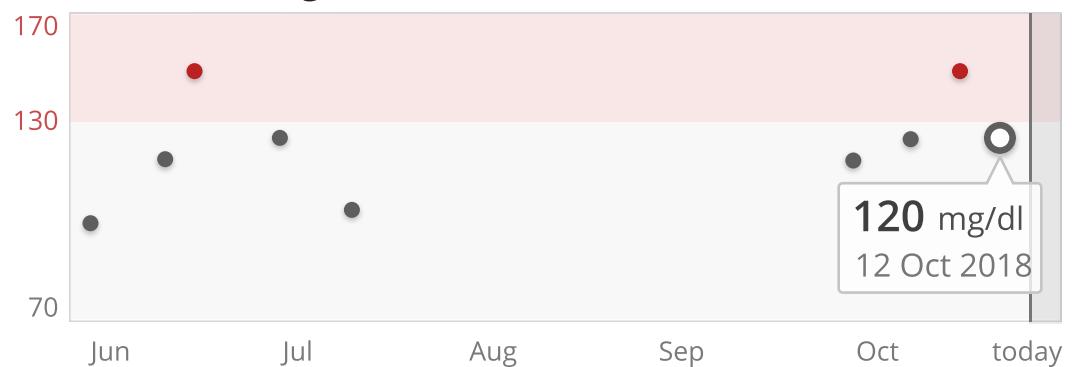
Labs

Remove connecting line. It does not have much value. If two dots overlap in the x-axis, replace by a line

Display most recent result, if recent (6 week?). By default, each chart calls out the most recent result. This is the highest value data on the chart.

On mouse over, move callout to closest data point.

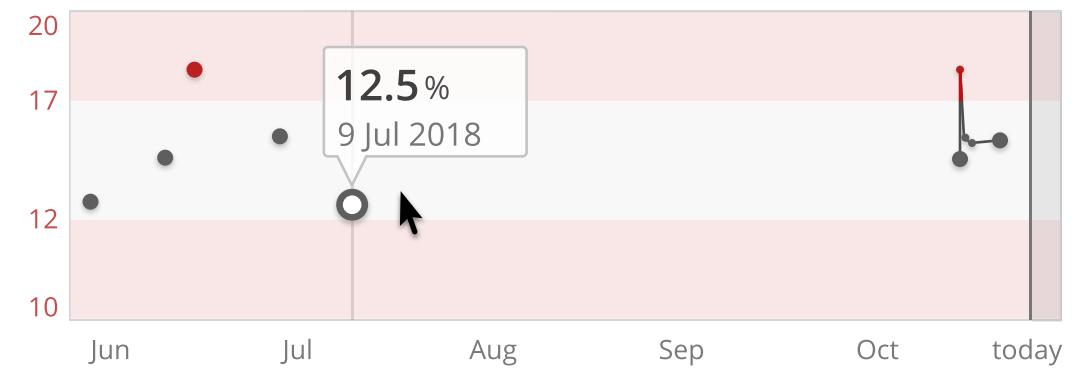
Blood urea nitrogen



C type lab



Hemoglobin



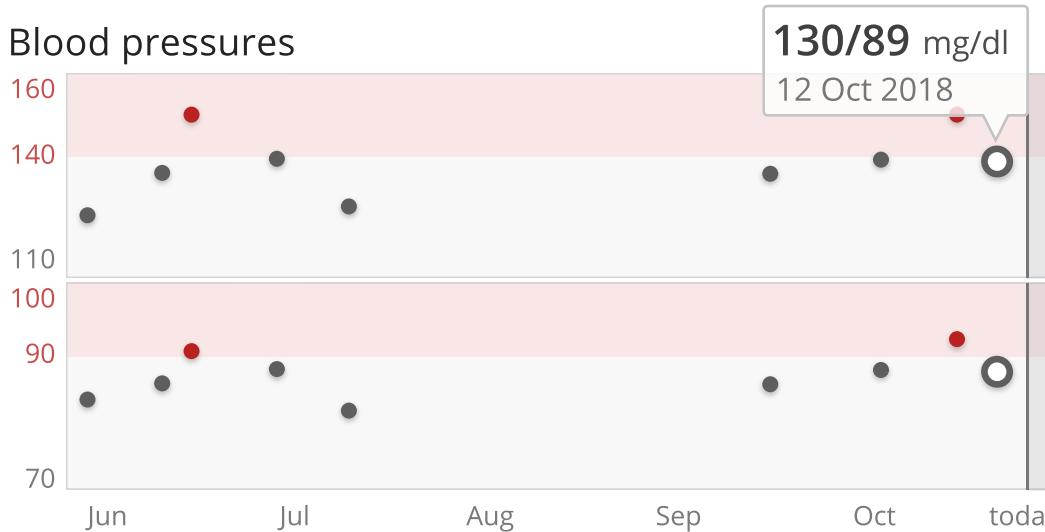
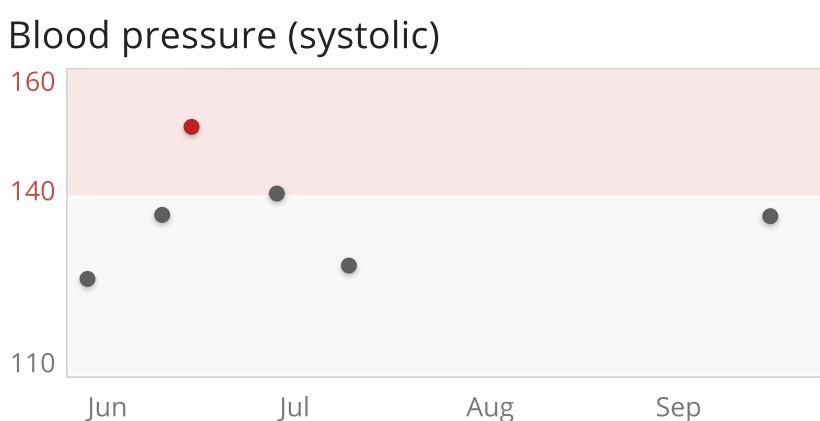
E blood thing



open questions:

- coloring on y axis
- is most recent dot styled small (see later slide)?
- when collapsing dots to line, do we preserve a small dot?
- do we collapse to line if the dots are sufficiently separated along y-axis?

Paired or related results (blood pressure) Separate to two charts.



4

LAB AND VITALS — EXPERIMENTAL CONCEPTS

Concepts:

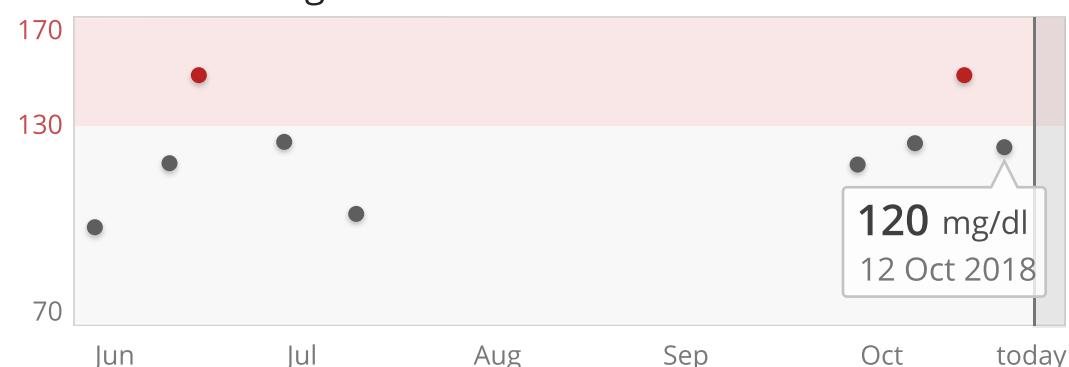
1. block layout
2. picker
3. time range

Fill the screen, but no more.

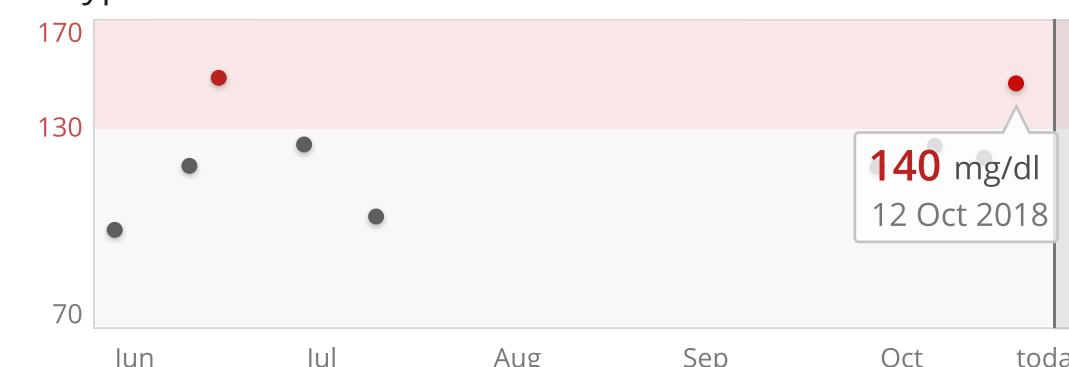
Expose as many charts as will display without scrolling. Scroll within labs view or on labs list.

Labs

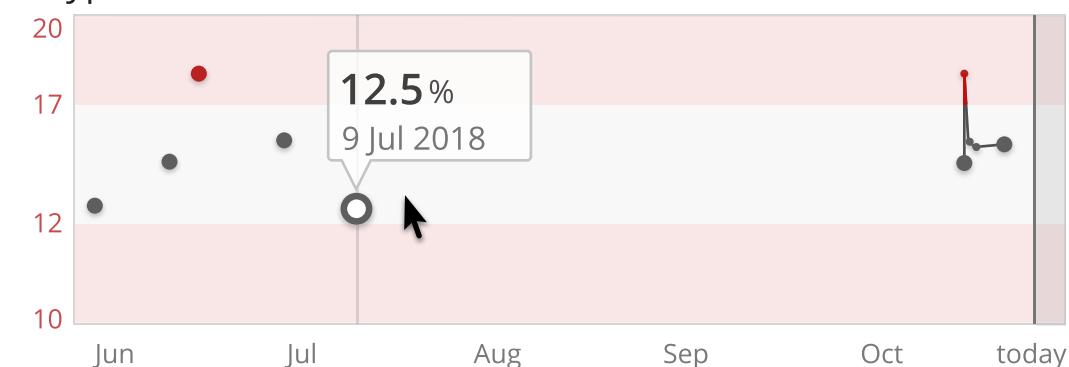
Blood urea nitrogen



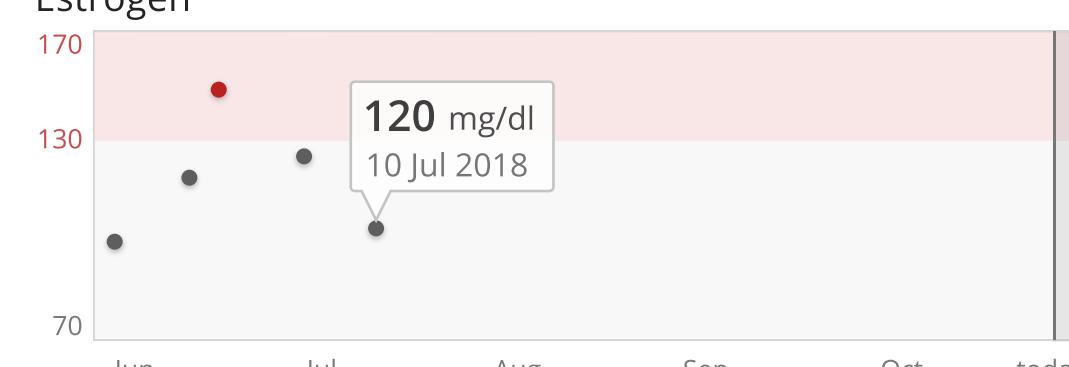
C type lab



D type lab



Estrogen



Con:

The labs section will interrupt scrolling through the TDP, just like the timeline does now. That is annoying.

- Blood stuff
- Blood urea nitrogen
- C type lab
- D tpe lab
- Estrogen
- F lab
- Globuglobulin
- Hemoglobin
- J lab
- J lab 2
- Ketones
- Lymphomes
- Platelets
- Plate2
- Qubits
- Stronomyomes