

Home

Patient

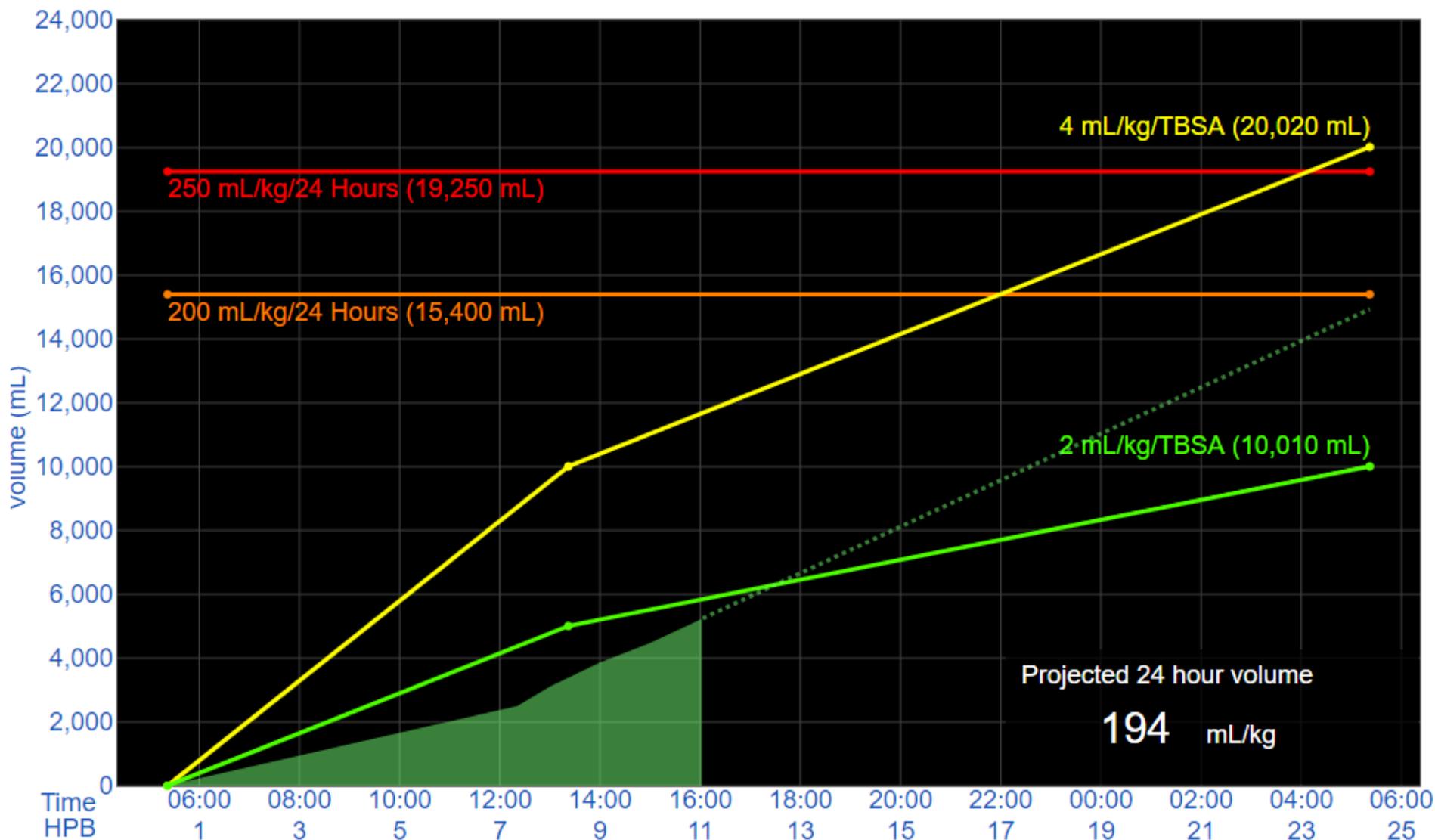
Notes

I/O Table

Volume

I/O Graph

### Cumulative Infusion Volume



## What is Burn Navigator?

Burn Navigator is a Clinical Decision Support tool to help health care professionals manage IV fluid therapy for adult and pediatric severe burn patients

## Who Developed It?

Burn nurses, doctors and engineers at the U.S. Army Burn Center (San Antonio) and Arcos, Inc. (Houston)

## Clinical Data

### Army's Initial Retrospective Study (n=70)<sup>1</sup>

- 24 hour fluids given reduced from 6.5 to 4.2 mL/kg/TBSA
- 2.5 fewer ventilator days
- Decreased mortality between cohorts

### Army Retrospective Review (n=207)<sup>2</sup>

- 24 hour fluids given were 3.5 mL/kg/TBSA
- Mean urine output for initial 24 hours was 55 mL/hr

### UTMB Retrospective Review (n=154)<sup>3</sup>

- AKI incidence reduced from 15% to 6% in first five days (p=.089)

1 Salinas, J et al, Computerized decision support system improves fluid resuscitation following severe burns: An original study, Crit Care Med 2011, 39(9), 2031-8.

2 J Salinas et al, *Review of Patients Resuscitated Using a Computerized Decision Support System in A Burn Intensive Care Unit*. Crit Care Med 2012, 225: Abstract only.

3 Sheaffer J et al, *Incidence of Acute Kidney Injury in Computerized Decision Support System Guided Fluid Resuscitations*, American Burn Association Oral Presentation, 24 March 2017.

# What Does It Show? Volume Graph

Room: 112

Weight: 74kg

TBSA: 57%

HPB: 10

13:27

Home

Patient

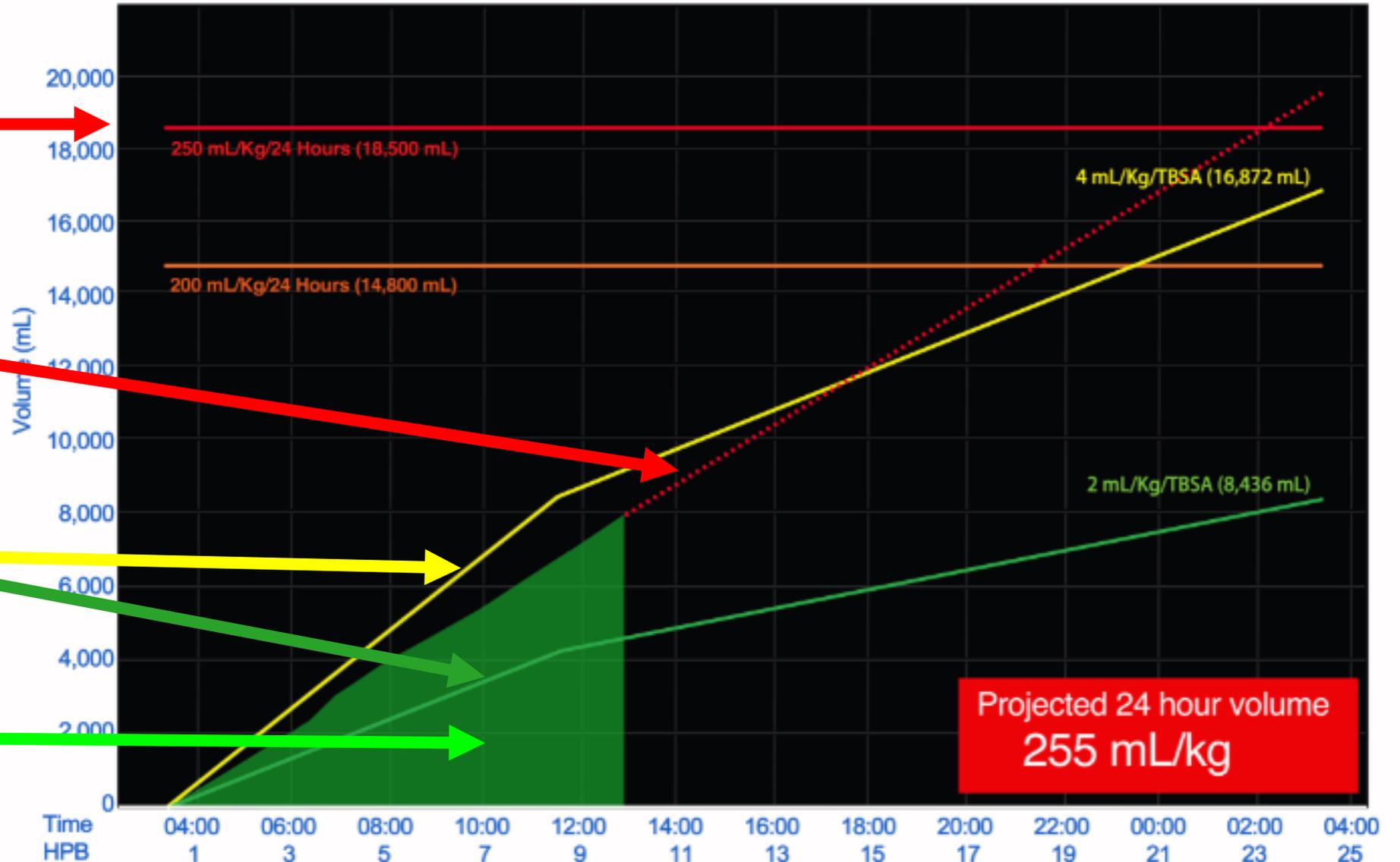
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I/O Graph

## Cumulative Infusion Volume



## IVY INDEX

Higher risk of ACS & mortality

## Projection Line

Where fluids will be at 24 hours with current rate (see also bottom right box)

## Guidelines

Parkland (Yellow)

Modified Brooke (Green)

## Green Mountain

All resuscitation fluids given so far

# What Does It Show? I/O Graph

Room: demo

Weight: 75kg

TBSA: 35%

HPB: 15

01:04

Home

Patient

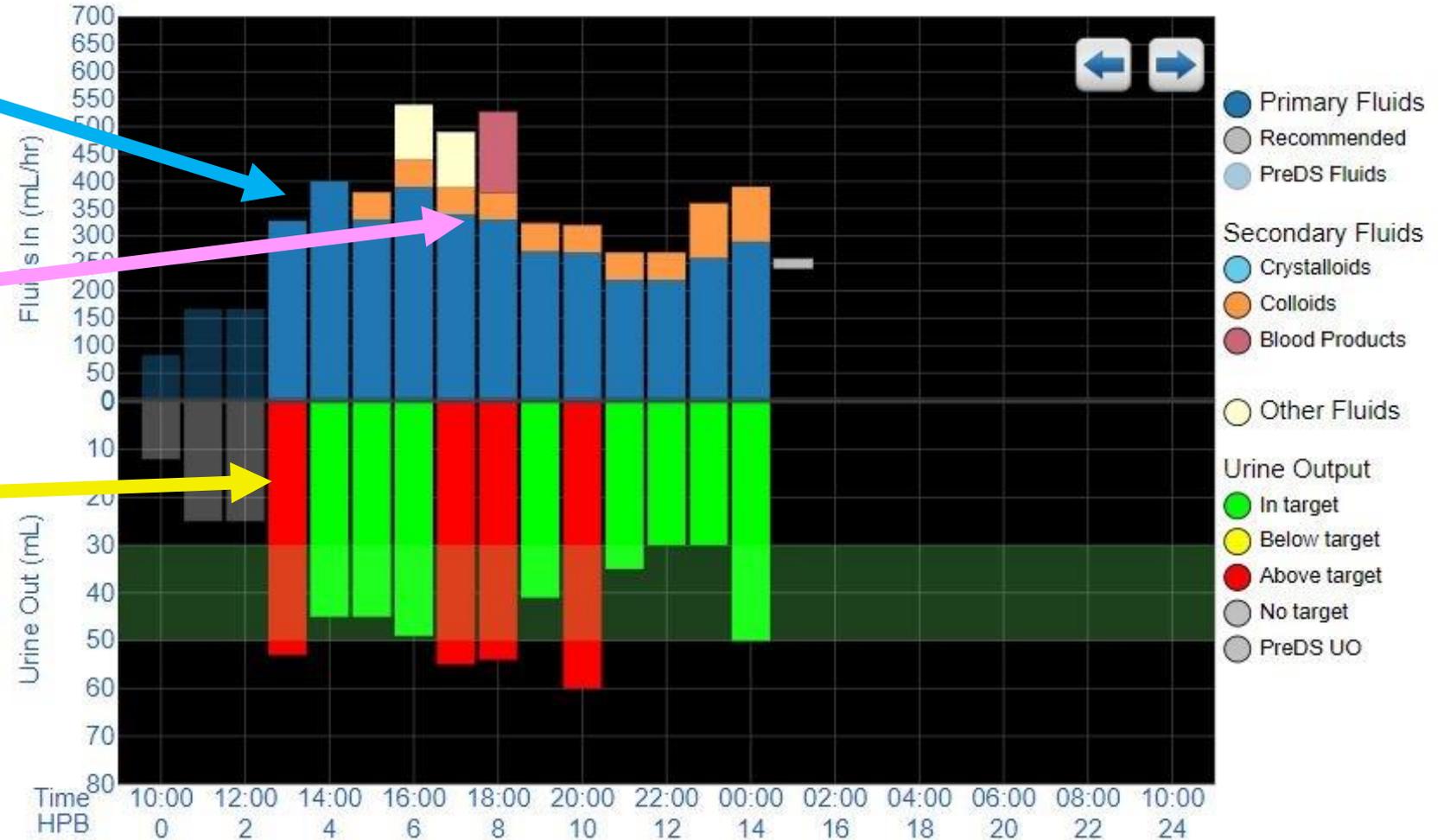
Notes

I/O Table

Volume

I/O Graph

## Fluids In/Out



## Primary Resus Fluid

What is titrated (blue bars)

## Additional Fluids

E.g. albumin, FFP, ...  
(colored by category)

## Urine Output

Green: In Target  
Yellow: Below Target  
Red: Above Target

# What Does It Show? Alerts!

Room: Training

Weight: 20kg

TBSA: 60%

HPB: 6

18:34

## “Non Responder” Alert



Alert!

Urinary output is not responding to fluid therapy. Check Foley catheter for obstruction and check bladder pressure. Patient may be a fluid “non-responder”. Contact attending physician.

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# How to Get Started!!

1

## Check Your Email!

From: "BurnNav.net" <info@arcosmedical.com>  
Subject: BurnNav Web Invitation

**Burn Navigator<sup>®</sup>**

You have been invited to use Burn Navigator.

[Please click here to set your Burn Navigator password.](#)

Thank you for using Burn Navigator<sup>®</sup>.  
If you have any questions or comments please feel free to contact us at [info@arcosmedical.com](mailto:info@arcosmedical.com).  
You can also provide feedback in the patient app by selecting the feedback icon in the upper right corner.

Please do not reply to this email. It was sent to you via an automated email system.  
All emails from Arcos Inc. or [burnnav.net](https://burnnav.net) are strictly confidential.

Click the link to set your password

2

## Log into Burn Nav Web

<https://burnnav.net>

Click "Login"

Enter email & password

Arcos Hospital Welcome Chris ▾

Active patients

Room No.	TBSA	Weight	Protocol	Hours Post Burn	Report	Session Id
training	65 %	80 kg	Adult predictive algorithm	HPB 1	PDF	training-100
Training603	50 %	67 kg	Adult predictive algorithm	HPB 6	PDF	training-96

[Start New Patient](#) [Training Mode](#)

Click "Training Mode"

# Confounders

Room: 501      Weight: 80kg      TBSA: %      HPB:      09:14

## Confounders

Does the patient have...

Gross myoglobinuria?     Yes     No     Unknown

High blood alcohol/EtOH?     Yes     No     Unknown

Hyperglycemia?     Yes     No     Unknown

End stage renal disease?     Yes     No     Unknown

Congestive heart failure?     Yes     No     Unknown

Urinary catheter?     Yes     No

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Next

Talk with provider about the appropriate UO target if there are confounders

# Choose Protocol

Room: 501      Weight: 80kg      TBSA: %      HPB:

Select the patient protocol:

**Adult predictive protocol**

Targets 30 - 50 mL/hr

Up to 15% changes each hour.

Recommended for most adults without gross myoglobinuria.

**Custom protocol**

Target:  to  mL/kg,  mL/hr urine output.

Limited to 10% changes each hour.

Recommended for pediatric patients.

**Monitor only**

No hourly recommendations.

Provides resuscitation graphs and alerts.

1. **Adult predictive** is common if there are no confounders
2. **Custom** lets you change the UO target, e.g., 75-100mL for myoglobinuria
3. **Monitor Only** if UO is not a good resuscitation indicator, e.g., renal failure, diuretics

## Starting Rate

Room: Training    Weight: 80kg    TBSA: 80%    HPB: 9    09:41

Select primary resuscitation fluid:  
Lactated Ringer's

Select initial rate formula:  
3 mL/kg/TBSA

Recommended rate: 600 mL/hr

Enter new rate: 600 mL/hr

Back    Next

You can type any rate the provider wants

## "Home" Screen

Room: Training    Weight: 80kg    TBSA: 80%    HPB: 9    09:43

Home    Patient    Notes    I/O Table    Volume    I/O Graph

Current primary fluid: Lactated Ringer's    Next update due: 17 minutes

Current infusion rate: 600 mL/hr    Projected 24 hour volume: 2.5 mL/kg/TBSA

Adult predictive protocol 30 to 50 mL  
 Custom protocol 30 to 50 mL  
 Monitor only

Hourly Update    Stop Burn Navigator    Enter Notes    Enter Checklist    Main Menu    Next Update

1. You can change protocol if needed
2. Press "Next Update" to zoom ahead (training mode)

# Fluid Updates

## 1 Urine Output + Current Rate

Room: Training    Weight: 80kg    TBSA: 80%    HPB: 10    10:00

Fluid Update: Urine Data

Urine measurement time

From: 09:42    To: 10:00    18 mins

Urine output volume

3 mL    0.1 mL/kg/hr

Urine output is not measured or unknown

Back    Next

Room: Training    Weight: 80kg    TBSA: 80%    HPB: 10    10:01

Fluids Given

From: 09:42    To: 10:00    18 mins

Primary fluid was:

Lactated Ringer's

Infusion rate:    Infusion volume:

600 mL/hr    180 mL

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## 2 Additional Fluids

Room: Training    Weight: 80kg    TBSA: 80%    HPB: 12    12:02

Additional Fluids

Fluid	Volume	Repeat
<input checked="" type="checkbox"/> Albumin 5%	70 mL	<input checked="" type="checkbox"/>
<input checked="" type="checkbox"/> Fresh Frozen Plasma	250 mL	<input type="checkbox"/>

Select a fluid type...

Total Additional Fluids: 320 mL

## 3 Safety Questions (sometimes)

Room: Training    Weight: 80kg    TBSA: 80%    HPB: 12    12:03

Safety Questions

Is patient hypotensive?     Yes     No

Is patient hyperglycemic?     Yes     No

Is patient on pressors?     Yes     No

Is patient on diuretics?     Yes     No

## 4 New rate!

Room: Training    Weight: 80kg    TBSA: 80%    HPB: 10    10:05

New Rate

Previous infusion rate: 600 mL/hr

Fluid type: Lactated Ringer's

Recommended rate:    New rate:

690 mL/hr    690 mL/hr

↑ 15%    ↑ 15%

## Indications For Use (Detailed)

- The Burn Navigator is indicated for use in the care of adult patients with 20% or more Total Body Surface Area (TBSA) burned, or pediatric patients, 24 months old or older, weighing at least 10 kg with 15% or more TBSA burned, as a fluid resuscitation monitor and calculator for hourly fluid recommendations.
- The Burn Navigator is intended to be used for burn patients of all ages, weights and co-morbidities as a fluid resuscitation monitor.
- The Burn Navigator is intended to be initiated within 24 hours of the burn incident and to be used no longer than 72 hours post burn.

## Keep in Mind!

Recommendations are only recommendations!

Understand the whole clinical picture, communicate with the attending physician, and do what's best for the patient

As a CDS tool, Burn Navigator is not intended to replace clinical decision judgement, rather it informs clinical decision making.

Users should always rely on their clinical judgment when making decision regarding patient care. The Burn Navigator recommendations are not a substitute for clinical judgment.

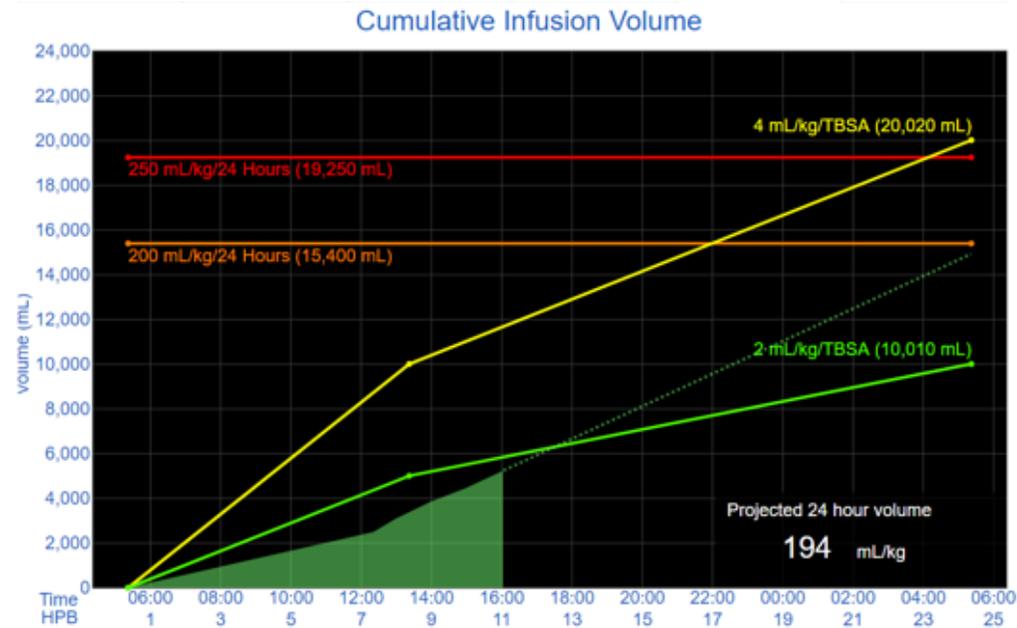
# Super User Checklist

- Volume Graph examples
- Protocols in detail
- Additional Fluids red message
- I/O Table
- Notes
- Checklists
- Patient tab to edit patient values
- Editing Fluid Updates (10 min window)
- Admin/Clinical Settings
- Safety Rules
- PDF

# Arcos™

## Burn Navigator®

### Questions?



**Arcos customer support:**  
**877.542.8025**  
[support@arcosmedical.com](mailto:support@arcosmedical.com)