



## User Instructions

[September 2023]

# PREVENT IMPACT MONITOR MOUTHGUARD

**IMPORTANT IMMWARNINGS & CAUTIONS**

- The head impact monitor is not a replacement, substitute or adjunct of any existing methods for identifying athletes for evaluation due to head impacts. The head impact monitor does not indicate, diagnose or assist in diagnosis of a concussion. Impact data is used to indicate to staff that an impact event has occurred and reliably measure it.
- The head impact monitor does not provide any protection against head impacts.
- Do not chew, bend, twist, or jam device.
- Before every use, inspect the product to ensure no damage to the seal of the circuit board is evident. Discontinue use if damage is seen.
- Ensure that the impact monitor mouthguard is not subject to temperatures higher than 100 °C (212 °F). Ensure that the impact monitor mouthguard is not subject to 60 - 100 °C (140 - 212 °F) for more than 1 minute.
- Use only the wireless charger provided with the product for charging.
- Avoid cross contamination of impact monitor mouthguards.
- Clean the impact monitor mouthguard by either rinsing in cold water or using a toothbrush to remove debris while rinsing. Do not use toothpaste or detergents, and do not place in dishwasher or under hot water.
- Do not leave the impact monitor mouthguard in a hot vehicle in direct sunlight.
- Do not place the impact monitor mouthguard in microwave.
- Do not operate charger outdoors.

**Protection Provided by the Prevent V1.4 Custom, Prevent V2.0 Custom, Prevent V2.0 Hybrid**

The technical specification “prEN ‘Mouthguards for use in sports- Safety requirements and test methods’ (CEN/TC 162WI 00162245); Issue date 12/06” includes requirements for minimum protected area, surface condition free of rough surfaces and sharp edges, a test to ensure the mouthguard remains in place during activity and impacts with three increasing levels of performance: “Level 1”, “Level 2” and “Level 3”(see table 1) and as impact test which identifies the reduction in transmitted force provided by mouthguard materials for each of three increasing levels of performance: “Level 1”, “Level 2” and “Level 3” (see Table 1).

<b>TABLE 1</b>	<b>Impact performance</b>	<b>Retention performance</b>
Level 1	< 10 kiloNewtons	>5 Newtons
Level 2	< 7.5 kiloNewtons	>10 Newtons
Level 3	<5 kiloNewtons	>20 Newtons

Note: The lower the transmitted force, the higher the impact performance impact performance and the higher the retention force, the higher the performance. Mean transmitted force (Impact energy 4 Joules).

The Prevent V1.4 Custom, Prevent V2.0 Custom, Prevent V2.0 Hybrid meet the requirements for Level 3 for impact performance and Level 3 for retention.

**MANUFACTURER’S INFORMATION FOR USER TESTING AND APPROVAL OF THIS PRODUCT**

This Prevent V1.4 Custom, Prevent V2.0 Custom, Prevent V2.0 Hybrid mouthguard has been tested at SATRA Technology Centre, Kettering, UK, and conforms to the technical specification SATRA M3:2011 Issue 3. It is CE marked as a Category II product in accordance with the Essential Health and Safety requirements of the Personal Protective Equipment Regulation (EU) 2016/425 (including as amended to apply in Great Britain).

CE certification by UK Approved Body, SATRA Technology Centre, Wyndham Way, Kettering, Northamptonshire NN16 8SD, Approved Body 0321.

The Prevent V1.4 Custom, Version 2.0 Custom&Prevent Version 2.0 Hybrid are CE marked to denote compliance with the EU Personal Protective Equipment Directive 2016/425/EU.



**Product Patent Protections – Mouthguard and/or Associated Mobile App**

- U.S. Patent 9,149,227 – DETECTION AND CHARACTERIZATION OF HEAD IMPACTS
- U.S. Patent 9,289,176 – CLASSIFICATION OF IMPACTS FROM SENSOR DATA
- AU Patent 2011278996 – DETECTION AND CHARACTERIZATION OF HEAD IMPACTS
- AU Patent 2011278997 – CLASSIFICATION OF IMPACTS FROM SENSOR DATA
- CA Patent 2,805,252 – DETECTION AND CHARACTERIZATION OF HEAD IMPACTS
- CA Patent 2,805,250 – CLASSIFICATION OF IMPACTS FROM SENSOR DATA
- EP Patent 2,593,010 – DETECTION AND CHARACTERIZATION OF HEAD IMPACTS (Validated in GB, DE, FR, IT, and ES)
- EP Patent 2,593,015 – CLASSIFICATION OF IMPACTS FROM SENSOR DATA (Validated in GB, DE, FR, IT, and ES)

Other Patents Pending.

**1.4 IMM TECHNICAL SPECIFICATIONS**

Performance	
Impact Detection Accuracy	± 5%
False Positive Filtering	99%
Range of Impact Detection	± 200 g
Sample Rate	3200 Hz
BLE Range	60 ft (18.28 m)
Impact Data Storage	368 Impacts
Mechanical	
Outer Material	Food or Medical Grade Polyurethane and EVA
Size (L, W, H) and Weight	6.5" x 5.0" x 2.0", 21 g
Environmental	
Temperature (Operation)	-20 – 60 °C / -4 – 140 °F (use) 0 – 45 °C / 32 – 113 °F (charging)
Altitude (Max Operation)	5000 meters (16,404 ft)
Temperature (Shipping & Storage)	-20 – 45° C
Power	
Charging Method	Wireless
Battery Type	Polymer Lithium-ion
Battery Life (In Use, Standby)	7 h
Interface	
Impact event data transmission	Bluetooth Connection to iOS
Indicators	Red, Yellow, Green LEDs

**1.4 INDIVIDUAL CHARGER CASE TECHNICAL SPECIFICATIONS**

Power supply	
Voltage input (DC Volts)	4.5-5.5
Maximum current draw (Amps)	0.5
Mechanical	
Material	Polypropylene
Size (L, W, H) and Weight	3.5" x 3.75" x 1.0", 60 g
Environmental	
Humidity (Operation)	65 ± 20% RH
Temperature (Operation)	0 – 45 °C / 32 – 113 °F
Altitude (Operation)	5000 meters (16,404 ft)
Ultraviolet Sanitization	
UV wavelength (nm)	280
Average UV power (mW)	4

**TEAM CHARGER CASE TECHNICAL SPECIFICATIONS**

Power supply	
Voltage input (AC Volts)	100-240
Maximum current draw (Amps)	1.52
Mechanical	
Material	Polypropylene
Size (L, W, H) and Weight	3.5" x 3.75" x 1.0", 60 g
Environmental	
Humidity (Operation)	65 ± 20% RH
Temperature (Operation)	0 – 45 °C / 32 – 113 °F
Altitude (Operation)	5000 meters (16,404 ft)
USB port	
USB voltage (V)	5
Maximum USB current output (A)	2

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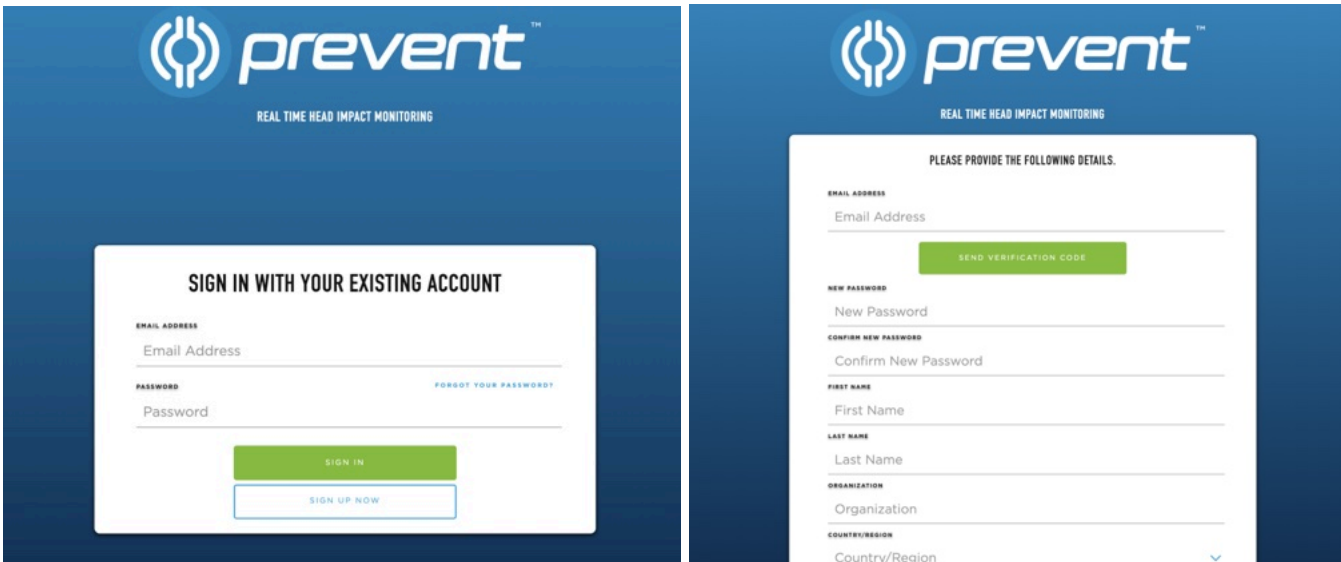
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## **1. PORTAL SETUP**

The first step in the process of setting up your impact monitor system is to gain access to the Prevent portal. The portal is where most administrative functions are performed, including populating your team roster so that IMM's can be assigned to athletes. To get started, email [support@preventbiometrics.com](mailto:support@preventbiometrics.com) the email address that you wish to create an account with. Prevent staff will confirm that your email has been assigned in the system.

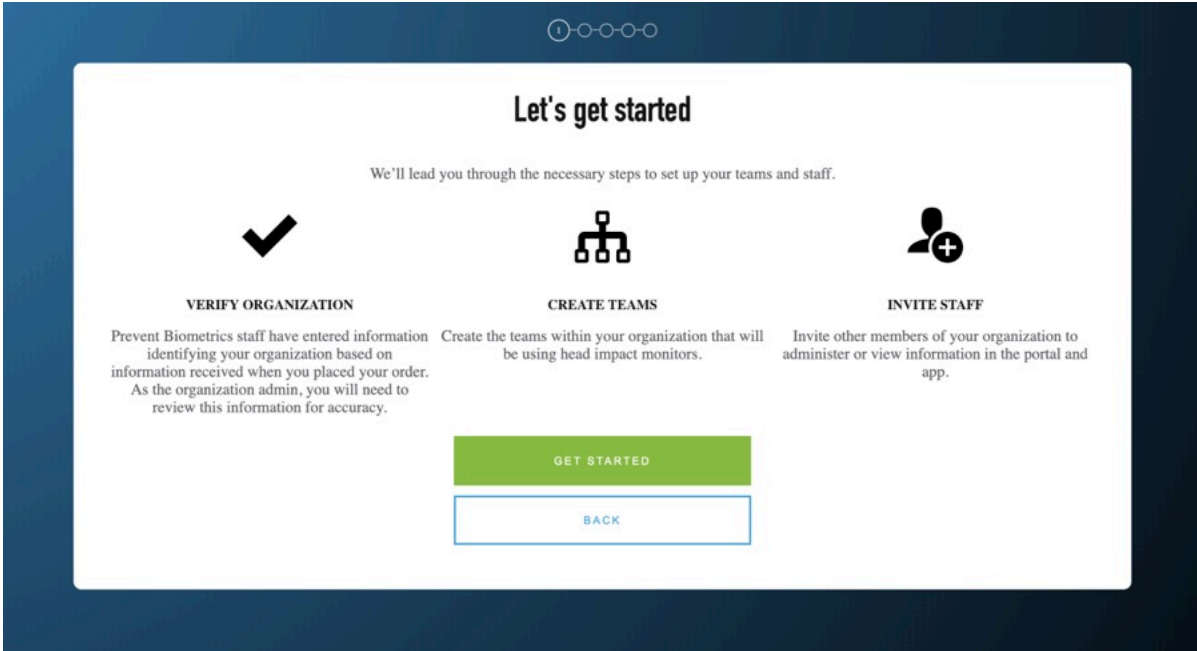
### **LOGGING IN**

Once Prevent staff have notified you that your email has been assigned in the portal, proceed to [www.portal.preventbiometrics.com](http://www.portal.preventbiometrics.com) to create your Prevent account.

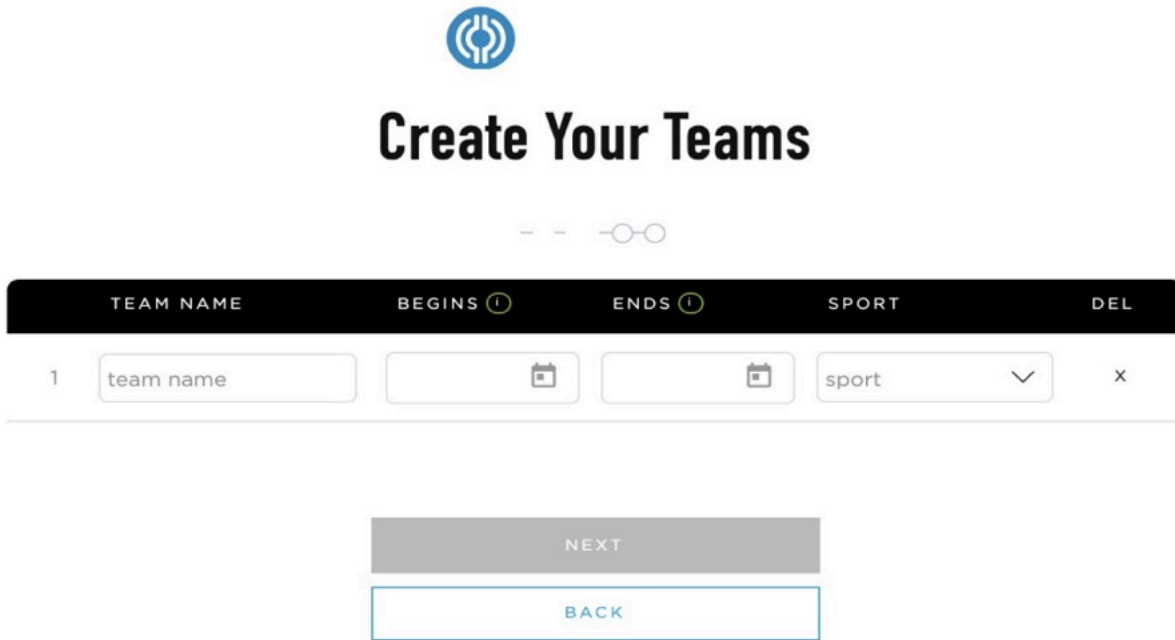


### **ORGANIZATION SETUP**

On first entry to the portal, a setup wizard will guide you through your initial setup of your organization, teams, and team staff.



After selecting “Get Started”, you will be asked to provide a Team Name, Season start and end date, and Sport.



Then, you will invite your staff or those who will need to have access to the team and their data. If there are others that need to be added later, there is a spot within the portal to do this as well.



EMAIL (USER ID)	LAST NAME	FIRST NAME	ADMINISTER TEAMS	VIEW TEAMS	PHONE	DEL	
1	email	last name	first name	none	none	phone	x

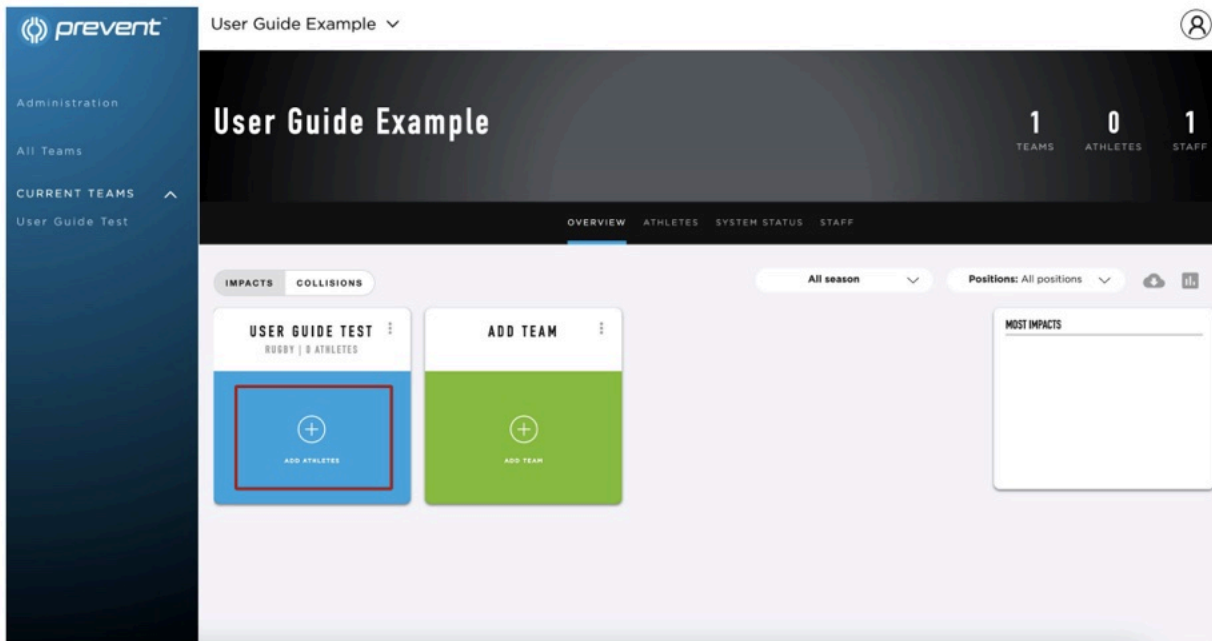
**NEXT**

**BACK**

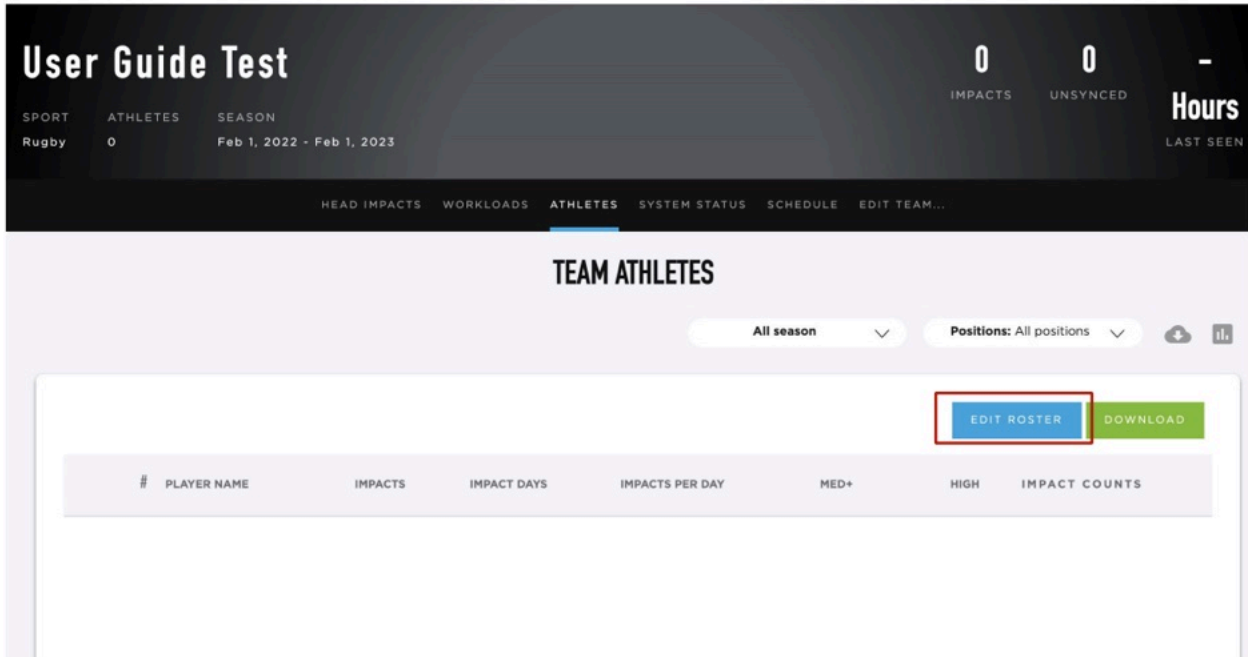
After these steps are complete, you will be able to add athletes to your roster.

### ROSTERING ATHLETES

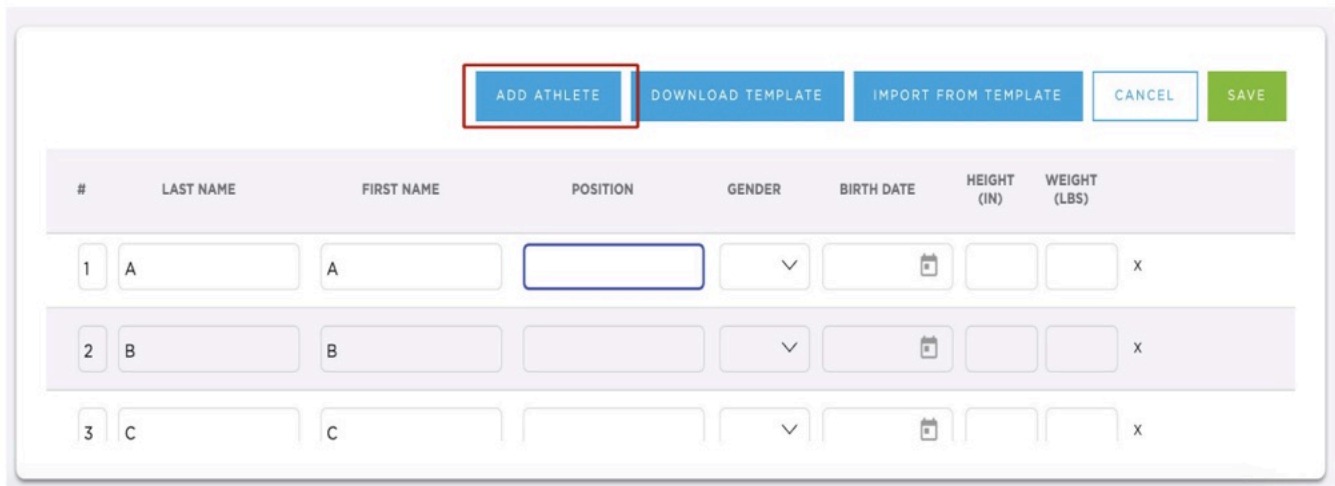
After logging in and creating your organization, you will be brought to this screen. When you are ready to add athletes, select “+ Add Athletes” icon.



Select the “Edit Roster” tab and select the “Add Athletes” icon to begin adding athletes to your roster. The athletes added in the portal will automatically populate in the iOS Prevent team app.



When you select “Edit Roster” you will need to select the “Add Athlete” tab in order to add the athlete’s information. A screen like the one shown below will display.



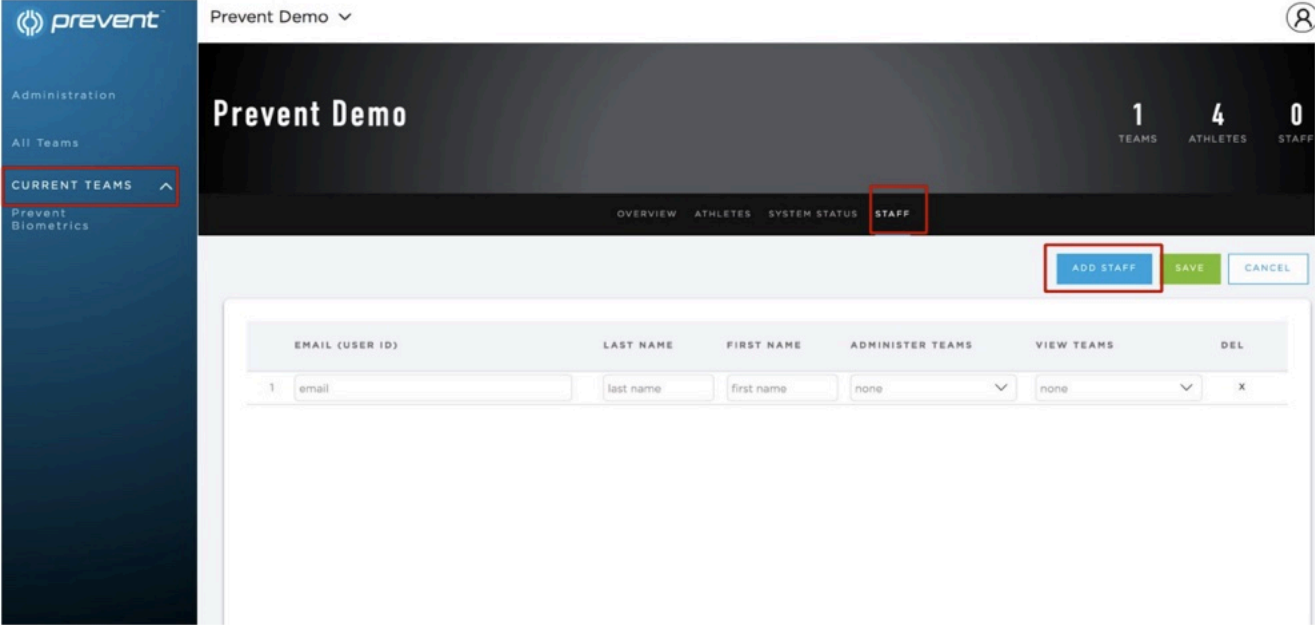
When you are done adding/editing your roster, hit the green “save” button to finish.

### ORGANIZATION OF STAFF & PERMISSIONS

If you are an organization admin, additional users and staff can be added to your organization. Under “Manage Organization Staff”, click “Add Staff”, enter the user’s email address, and click “Add/Invite Staff”.

Before the new user can view any teams or players, they must be assigned permissions. Users can be assigned permissions to any level of your organization, including the whole

organization, a level, or a particular team. This is done by navigating to the team or level of interest and assigning roles. Be sure to hit the green “save” button to complete the process.

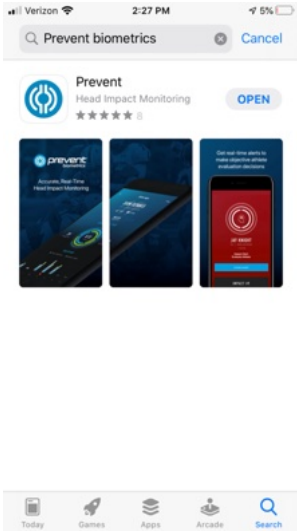


## 2. TEAM APP SETUP

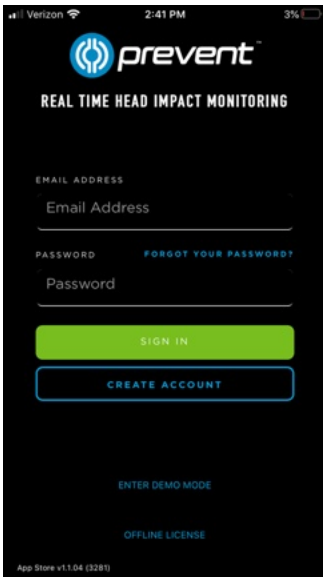
The team app is the primary data syncing platform for the Prevent impact monitoring system. Most IMM operations are done with the team app, including viewing data and alerts, updating firmware, and checking the health of the impact monitors. This section will walk you through initial setup of the team app.

### LOGGING IN

Using an iOS device, go to the App Store and search “Prevent Biometrics”. Proceed to download the Prevent app.



Upon opening the Prevent App, you will be presented with the following page. Log into the app using the same email address and password used to create the Prevent portal account.



After you've completed the Prevent Portal set up (created your team and rostered your athletes) and have downloaded and logged in to the Prevent app, you are ready to assign

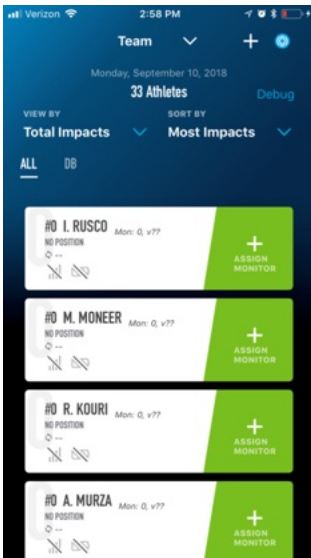
mouthguards to the athletes. To do this you have two options, but you only need to follow one of the processes.

This will first walk you through assigning mouthguards in the Prevent App, then it will walk you through the assigning process in the Prevent Portal. As mentioned above, either process is fine, but you do not need to do both. However, the easiest method for assigning mouthguards is done in the Prevent App.

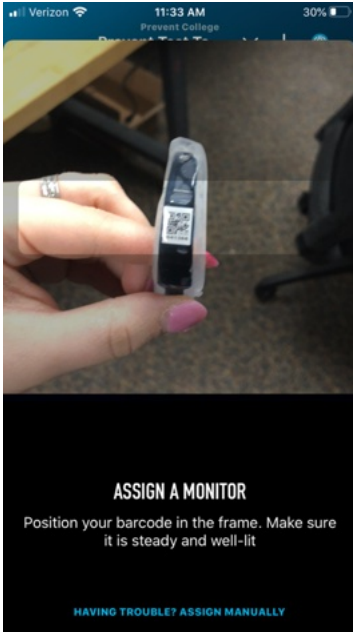
**ASSIGNING IMPACT MONITOR MOUTHGUARDS IN PREVENT APP**

First, select the team you would like to view from the drop-down menu at the top of the app. The athletes you added in the Portal will transfer to the iOS app, so you won't need to input those again. Each monitor has a unique serial number that identifies data sent to the team app. Before beginning use, each monitor must be assigned to a player.

Begin by selecting the team of interest within the team app. Click the "Assign Monitor" button attached to the player you would like to assign a monitor to.



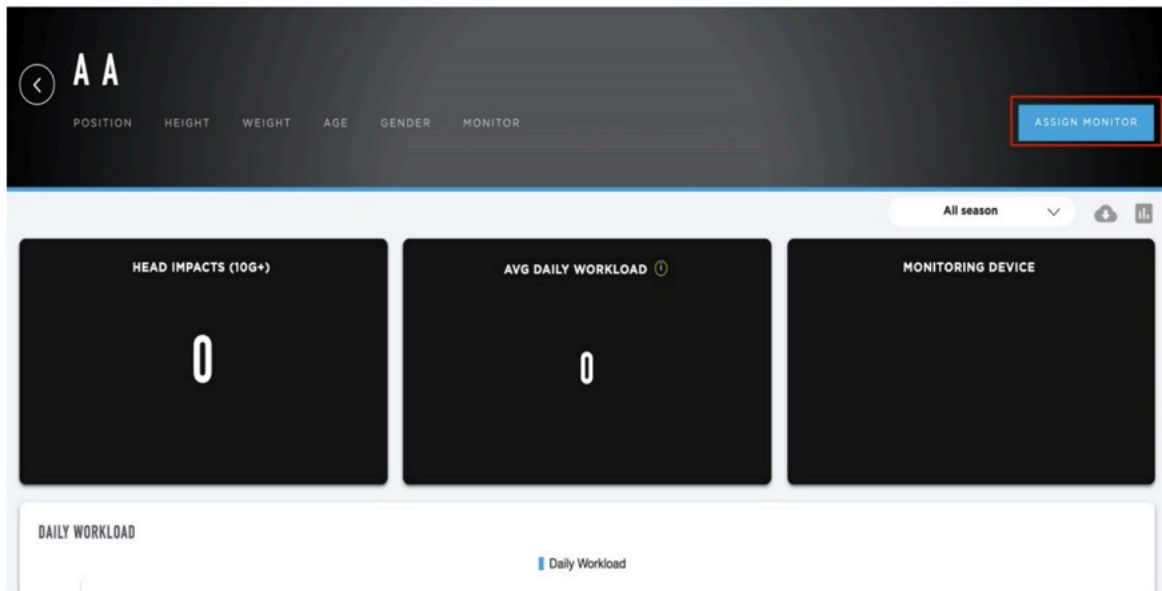
Scan the serial number barcode for the device in the frame, and the team app will capture the device's identity and automatically assign it.



At this point, the monitor is paired with a player. Take care that this monitor is now identified to be owned by the correct player. This can be done by immediately writing the player's name on a solo case and placing that mouthguard into its designated solo case.

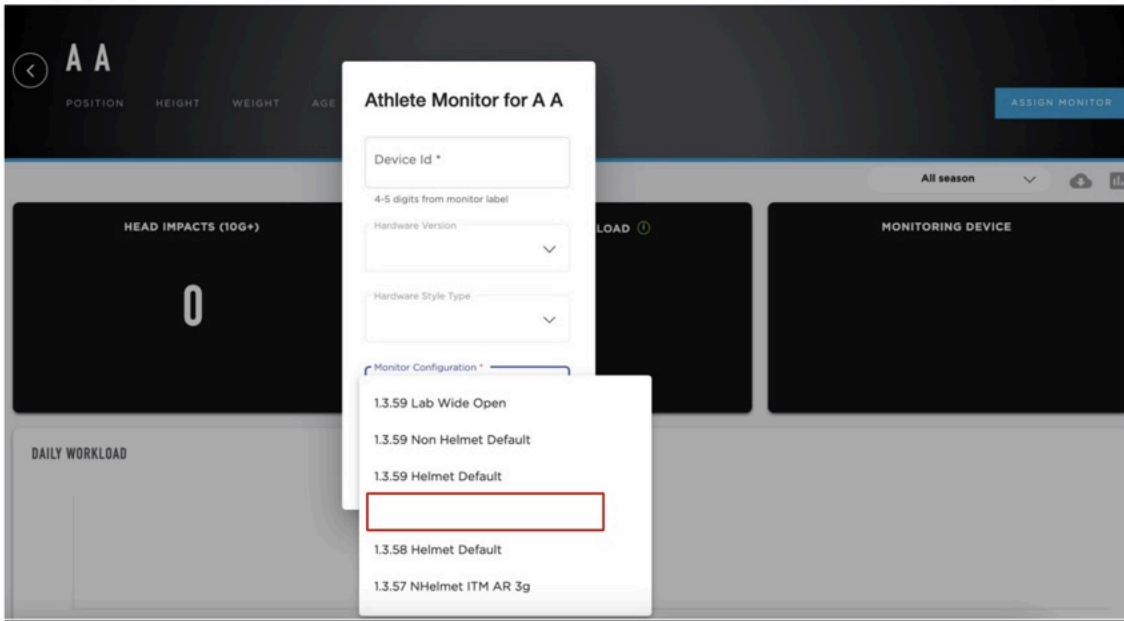
### ASSIGNING MONITORS IN PREVENT PORTAL

To begin this process, you will go to your team in the portal and select the "Athletes" tab. From there you will select the athlete you would like to assign a mouthguard to. Next, you will select the blue box in top right-hand corner labeled "Assign Monitor".



After selecting "Assign Monitor" a small window will pop up, you will then type in the serial number found on the monitor and enter that into the box labeled "Device Id". Then you will

go to the “monitor configuration” drop down and scroll to find the blank label option. Once you’ve filled in the device Id and the monitor configuration, click “save”.



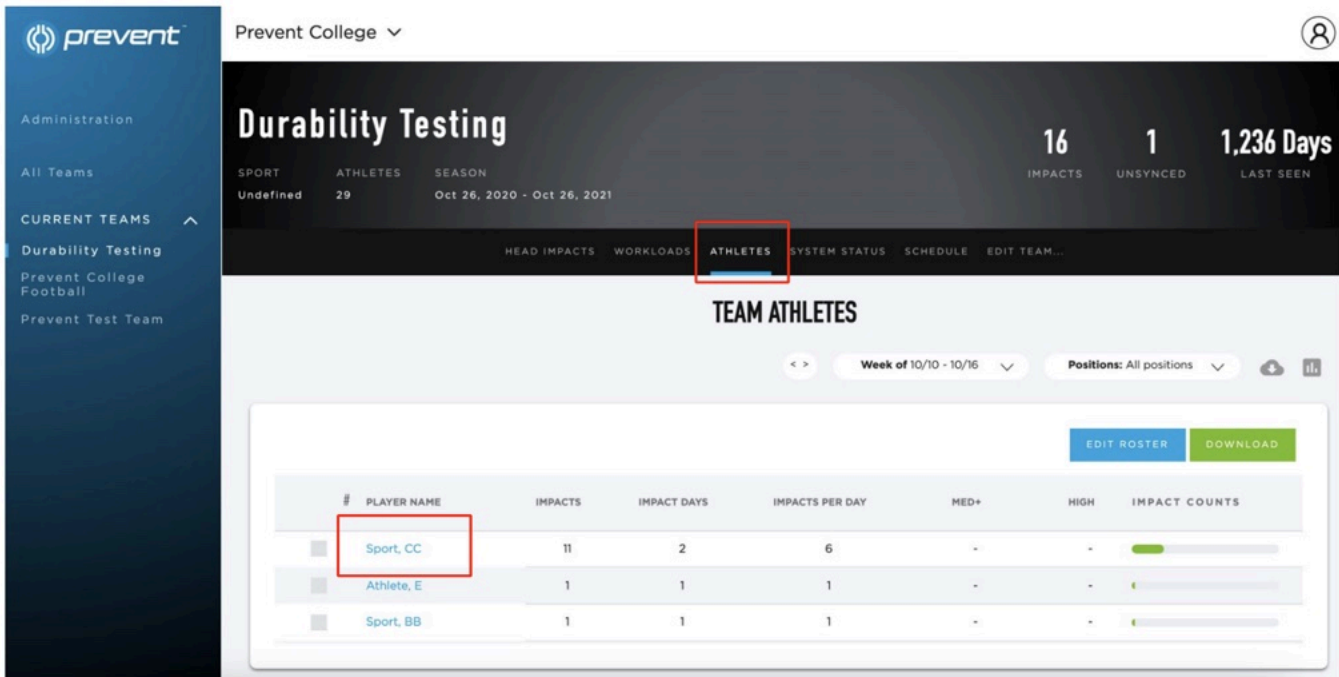
### 3. PREVENT PORTAL OPERATIONS

This section will lead you through the general operations of the Prevent portal once the IMMs are set up and ready to use.

#### UNASSIGNING MONITORS IN THE PORTAL

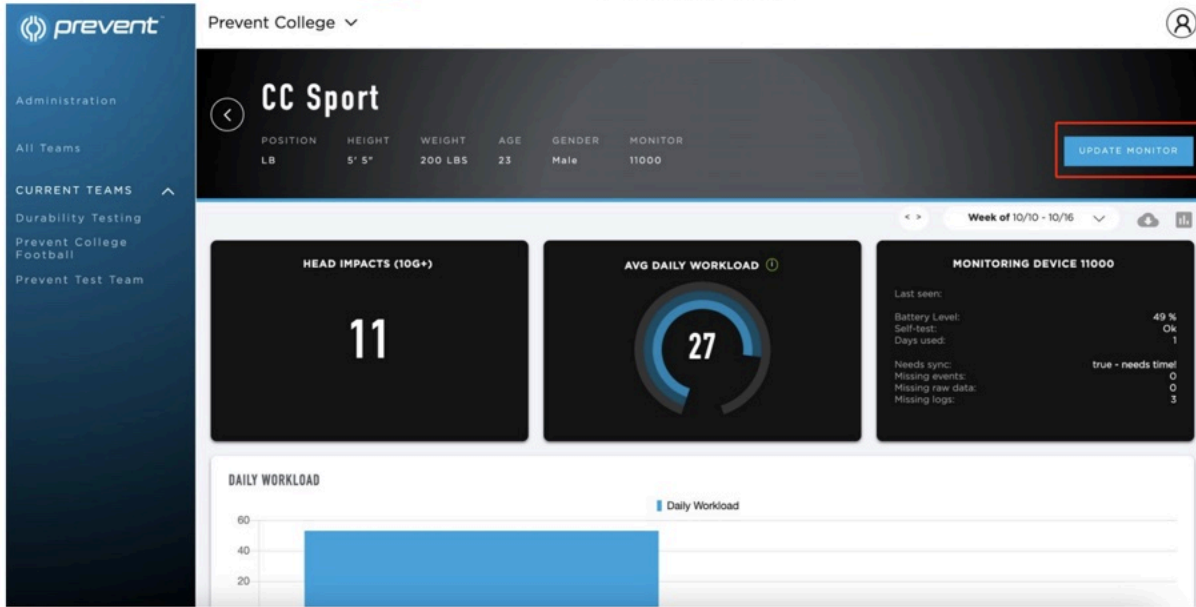
If at any point a monitor needs to be unassigned from an athlete, you have the option to do this either in the Portal or the Prevent App. This section will walk you through the Portal process.

To begin, you need to navigate to your team page in the Prevent Portal. Once you're there, toggle over to the "Athletes" page. You will then click on the athlete's name that needs their mouthguard unassigned.

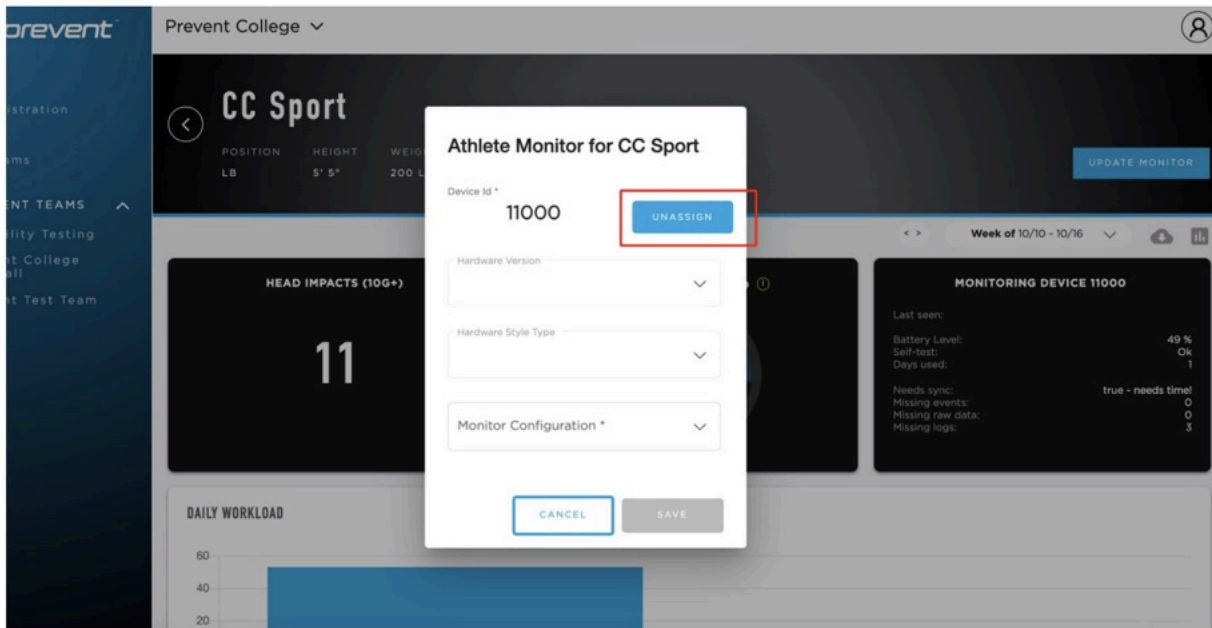


Once you've selected the athletes name, you will be brought to that athletes' page. From there you will need to select the "Update Monitor" icon in the top right corner of the page.





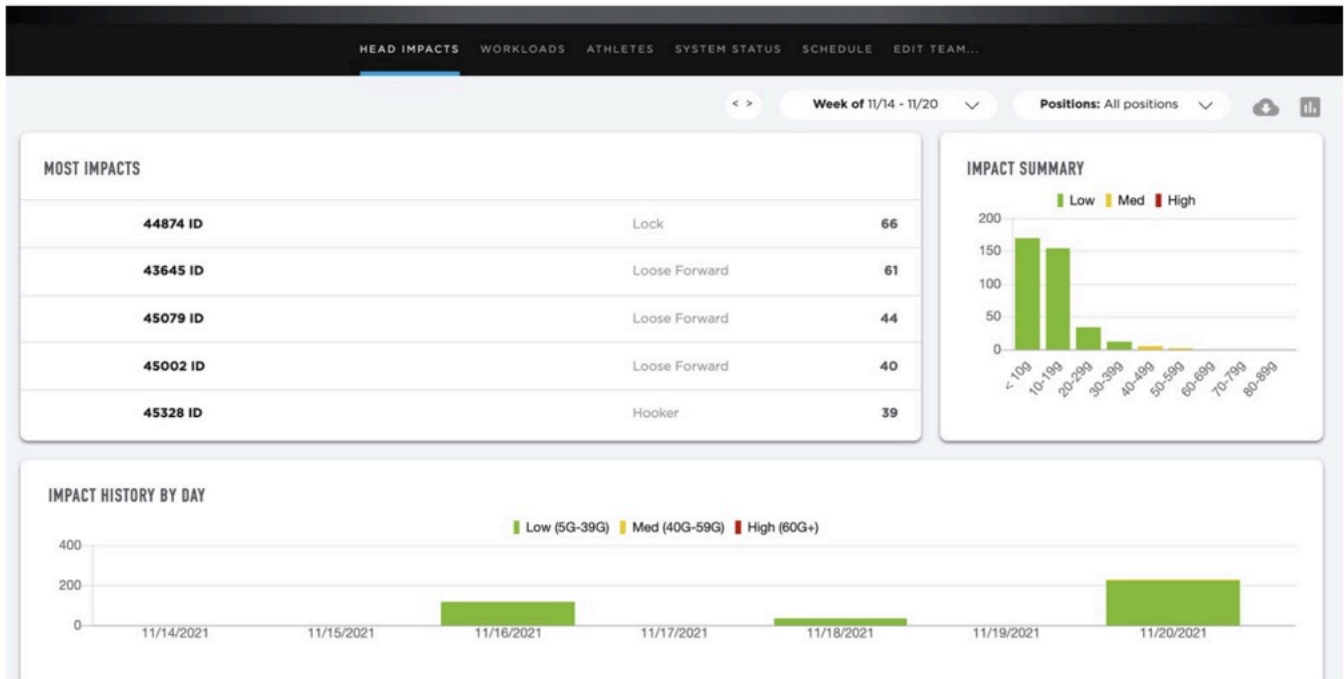
After you've selected "Update Monitor", a pop-up window will appear. Ensure that you are on the correct athlete and that the serial number matches the one you'd like to unassign. Once you've confirmed it is the correct monitor, you will then select the blue "Unassign" icon. The mouthguard is now unassigned, and you have the option to assign a new one.



### HEAD IMPACT TAB

Following a session, when you navigate to your team page and stay within the "head impacts" tab, you will see a general overview of the day. It will display the athlete with the most impacts, an impact summary table breaking down the magnitude of the impacts taken, as well as a bar graph displaying impact history by day. You can view the data

under this tab, but you also have an option to download a head impact summary report to view the information in its entirety.



**WORKLOADS TAB**

If you toggle over to the “Workloads” tab – the same will be true for viewing the data. You will see the tables and graphs presented in “head impacts” tab. You will also be able to download a summary report using the same steps as you did with head impacts.

**ATHLETES TAB**

If you navigate into the “Athletes” tab in the portal you will see a list of all athletes rostered, their respective impacts, the impact days, impacts per day, whether they were categorized as Medium or High impacts, and the impact count for each athlete. While in this tab, you can click on an athlete’s name, and it will bring you to their profile and show their individual reports.

**SYSTEM STATUS TAB**

The “System Status Tab” serves as a hub for system status information related to the mouthguards. In this tab you will see who is assigned what monitor, when it connected last, as well as the battery level of the mouthguard. It will also show you relevant information regarding the data syncing process and whether there are still events or raw data to sync. If you hit the green “download” icon, a report showing all that information will be created for you.

### TEAM SYSTEM STATUS

as of Thu Feb 03 2022 13:19:09 GMT-0600 (Central Standard Time)

DOWNLOAD

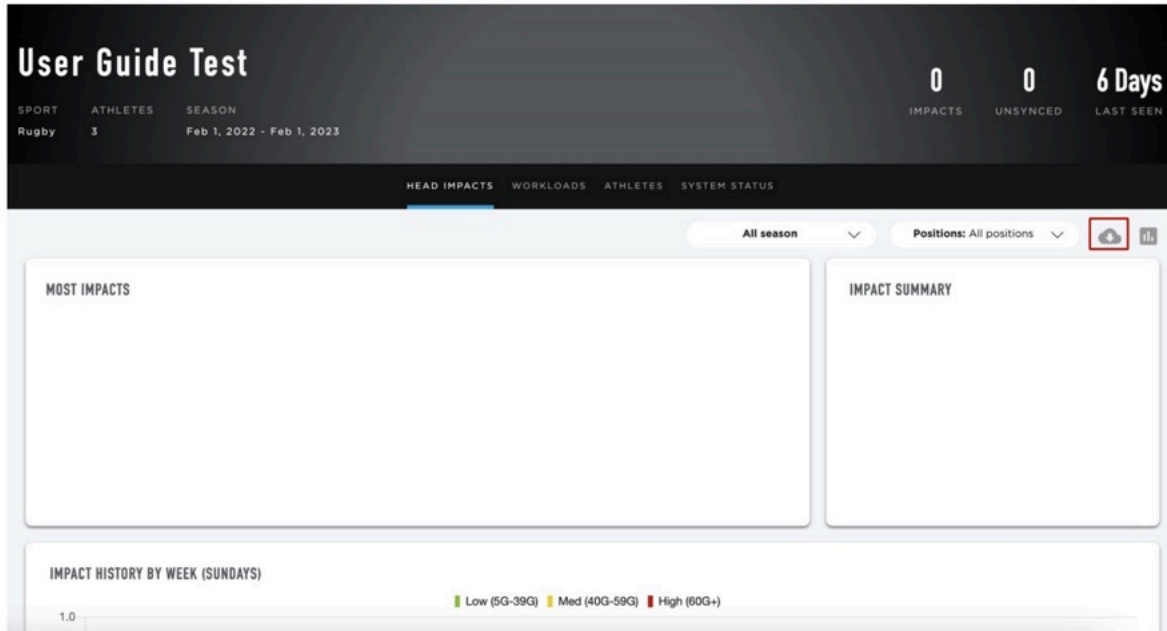
#	PLAYER NAME	CURRENT MONITOR	LAST SEEN	LAST USED	BATTERY	EVENTS TO SYNC	RAW DATA TO SYNC	LOGS TO SYNC	NO DATE IMPACTS	DAYS USED	REPLACE
	<a href="#">ID, 45136</a>	99036	96 days ago	-	34%	-	-	73	-	-	
	<a href="#">ID, 45244</a>	99037	96 days ago	-	74%	-	-	135	-	-	
	<a href="#">ID, 45031</a>	99038	96 days ago	-	68%	-	-	74	-	-	
	<a href="#">ID, 44929</a>	99039	96 days ago	-	72%	-	-	82	-	-	

#### 4. DOWNLOADING DATA REPORTS

Within the Prevent Port, you have the option to download reports to view the data that has been collected. To do so, you will follow the instructions laid out below.

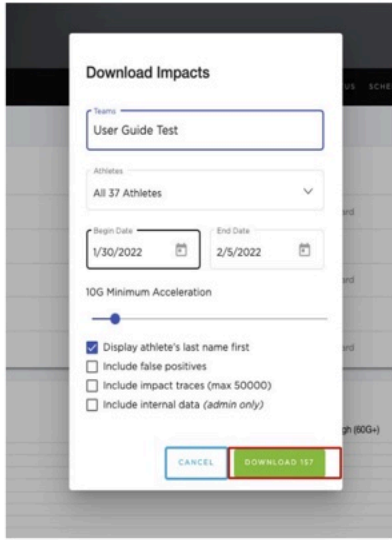
##### HEAD IMPACT SUMMARY REPORT

After your session and the data has synced, you will be able to download a head impact summary report from the portal. To do this, you will need to go to your team within the portal and select the “head impacts” tab. From there, you will click on the cloud like icon in the top right shown below.



After selecting the cloud icon, a pop-up window will appear. In the pop-up window, you will fill out the relevant information that you’re looking for on the report. Once you’ve set your criteria for the report, you will select the “Download” option to view. The summary report will open in excel format as seen below. This Report will display all data criteria for each impact taken by all athletes during your session.

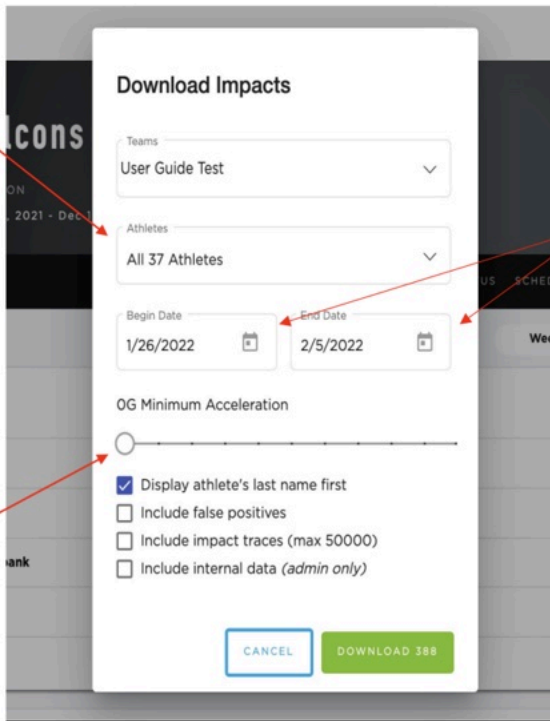
PREVENT BIOMETRICS USER GUIDE



Team	Athlete	Device SN	Permitted for Studies	Event Intensity	Position	Peak Linear	Peak Angular	Peak Linear 1	Peak Angular	Workload	Location	Date	Local Time	Time Zone	Quality	Category	Version
Team	Athlete	43453	8057 No	Forward	3	235	0.9	2.9	0.3	BOTTOM_MH	1/12/22	08:58:55-08:00:00	2	2.1			
Team	Athlete	43453	8056 No	Forward	2.4	283	0.2	1.2	0.1	TOP_FRONT	1/12/22	08:58:55-08:00:00	2	2.1			
Team	Athlete	43214	39 Yes	Forward	1.7	246	0.2	1.4	0.2	RIGHT_LEG	1/12/22	08:59:00-08:00:00	1	2.1			
Team	Athlete	43214	34 Yes	Forward	3.9	279	0.4	1.5	0.4	BOTTOM_MH	1/12/22	08:59:00-08:00:00	2	2.1			
Team	Athlete	43214	35 No	Forward	6.6	140	0.7	1.2	1	BOTTOM_MH	1/12/22	08:59:00-08:00:00	2	2.1			
Team	Athlete	43214	36 Yes	Forward	4	90	0.4	0.9	0.4	BOTTOM_MH	1/12/22	08:59:00-08:00:00	2	2.1			
Team	Athlete	43245	133 No	Forward	6.4	344	0.7	1.9	1	BOTTOM_MH	1/12/22	08:59:00-08:00:00	1	2.1			
Team	Athlete	43214	37 No	Forward	6.1	297	0.7	1.2	1	BOTTOM_MH	1/12/22	08:59:00-08:00:00	2	2.1			
Team	Athlete	43298	2995 Yes	Forward	3.4	121	0.4	1.7	0.3	BOTTOM_MH	1/12/22	08:59:00-08:00:00	2	2.1			
Team	Athlete	43214	38 No	Forward	6.4	237	0.7	2.9	1.1	FRONT_LEG	1/12/22	08:59:00-08:00:00	2	2.1			
Team	Athlete	43298	2996 No	Forward	10	403	0.8	0.9	1.4	BOTTOM_MH	1/12/22	08:59:00-08:00:00	1	2.1			
Team	Athlete	43245	111 No	Forward	6.9	113	0.7	0.8	1.1	BOTTOM_FR	1/12/22	08:59:00-08:00:00	2	2.1			
Team	Athlete	43298	2997 Yes	Forward	4.8	234	0.4	1.4	0.4	BOTTOM_MH	1/12/22	08:59:00-08:00:00	1	2.1			
Team	Athlete	43245	112 Yes	Forward	4	196	0.4	1.3	0.4	BOTTOM_FR	1/12/22	08:59:00-08:00:00	2	2.1			
Team	Athlete	43453	8059 No	Forward	3.5	257	0.4	1.9	0.5	BOTTOM_MH	1/12/22	08:59:00-08:00:00	2	2.1			
Team	Athlete	43298	2998 No	Forward	6.2	253	0.6	1.1	0.7	BOTTOM_MH	1/12/22	08:59:00-08:00:00	1	2.1			
Team	Athlete	43245	113 No	Forward	5.4	323	0.6	1.1	0.8	BOTTOM_MH	1/12/22	08:59:00-08:00:00	1	2.1			
Team	Athlete	43298	2999 No	Forward	5.2	158	0.6	1.3	0.7	BOTTOM_MH	1/12/22	08:59:00-08:00:00	2	2.1			
Team	Athlete	43453	8060 No	Forward	2.8	271	0.2	0.5	0.2	TOP_FRONT	1/12/22	08:59:00-08:00:00	2	2.1			
Team	Athlete	43453	8061 No	Forward	5.7	185	0.6	0.9	0.8	BOTTOM_FR	1/12/22	08:59:00-08:00:00	2	2.1			
Team	Athlete	43453	8062 No	Forward	6	945	0.6	7.9	1.4	LEFT_LEG	1/12/22	08:59:00-08:00:00	2	2.1			
Team	Athlete	43245	115 Yes	Forward	3.1	170	0.3	1.2	0.3	FRONT_LEG	1/12/22	08:59:00-08:00:00	2	2.1			
Team	Athlete	43453	8063 No	Forward	2.7	253	0.3	1.2	0.2	TOP_NEAR	1/12/22	08:59:00-08:00:00	2	2.1			
Team	Athlete	43453	8064 No	Forward	3.4	129	0.4	1.1	0.4	TOP_FRONT	1/12/22	08:59:00-08:00:00	2	2.1			
Team	Athlete	43453	8065 No	Forward	5.9	522	0.5	1.2	0.7	BOTTOM_MH	1/12/22	08:59:00-08:00:00	2	2.1			
Team	Athlete	43453	8066 No	Forward	5.4	255	0.6	1.1	0.8	BOTTOM_MH	1/12/22	08:59:00-08:00:00	2	2.1			
Team	Athlete	43214	39 No	Forward	8.9	594	0.9	2	0.9	BOTTOM_FR	1/12/22	08:59:00-08:00:00	0	2.1			
Team	Athlete	43214	40 No	Forward	6.6	329	0.7	1.3	1.1	BOTTOM_MH	1/12/22	08:59:00-08:00:00	1	2.1			
Team	Athlete	43214	41 No	Forward	6.6	252	0.6	1.3	0.9	BOTTOM_FR	1/12/22	08:59:00-08:00:00	1	2.1			
Team	Athlete	43245	116 No	Forward	7.6	329	0.6	2.2	1	BOTTOM_FR	1/12/22	08:59:00-08:00:00	1	2.1			
Team	Athlete	43298	3000 No	Forward	7.3	304	0.7	1.4	1.1	BOTTOM_FR	1/12/22	08:59:00-08:00:00	1	2.1			
Team	Athlete	43245	117 No	Forward	5.9	186	0.6	1	0.9	BOTTOM_FR	1/12/22	08:59:00-08:00:00	2	2.1			
Team	Athlete	43214	42 No	Forward	6.6	356	0.6	2.1	0.9	BOTTOM_MH	1/12/22	08:59:00-08:00:00	1	2.1			

OVERVIEW OF CRITERIA FOR SUMMARY REPORT

This box is designed so you can select the athletes you would like to see on the report. If you would like to see one specific athletes' data, you would filter using this box.



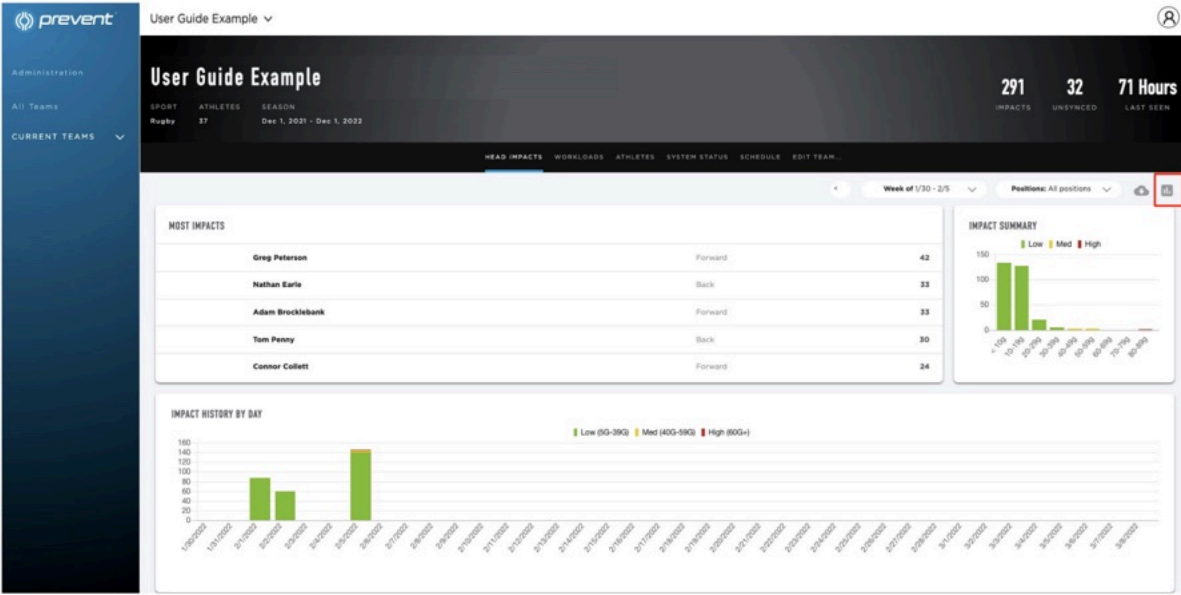
Using the Begin and End dates allows you to view data during a specific timeframe. Whether it be data for a specific day or the entire season, you will alter these boxes to correspond with those dates.

This feature allows you to only display impacts at a certain magnitude in your report. If you want to see any impacts above 20G, you will simply move to 20G on the bar.

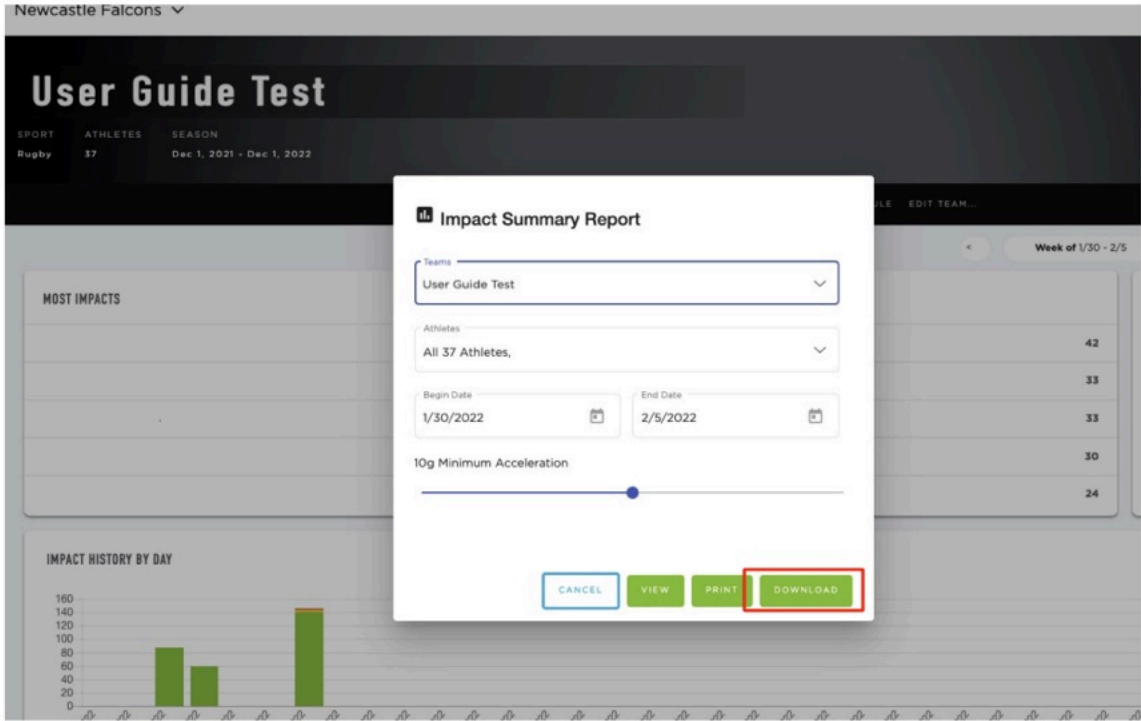
IMPACT SUMMARY REPORT

The second type of report you can run, is an "Impact Summary" report. In order to run this report, you must also be underneath the "Head Impacts" tab within your team page. Once you are there, you will want to select the bar graph icon in the upper right as signified with

the red box below.

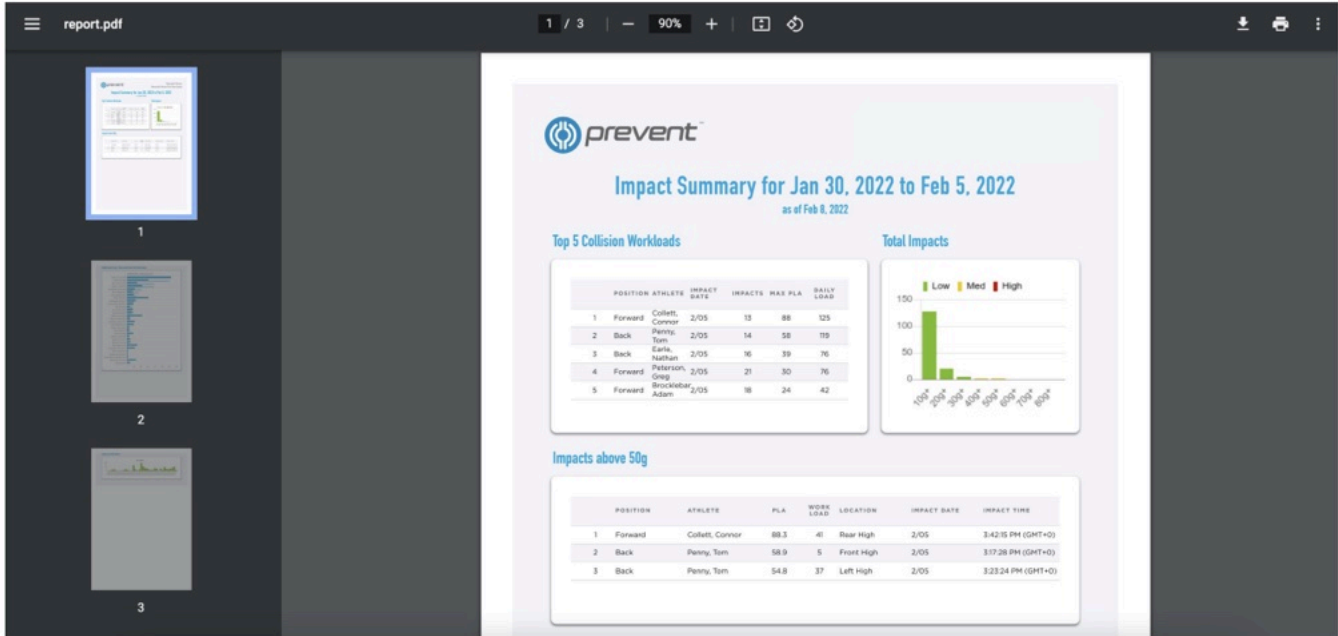


After selecting the bar graph icon, a pop-up window will appear. In the pop-up window, you will fill out the relevant information that you're looking for on the report. As you saw in the earlier slide, altering any of the criteria will give you a different outcome to match the specific information you are looking for. Once you've set your criteria for the report, you will select "Download" to view.



Once you've selected "Download" a 3-page report should generate. This report will present an Impact Summary for the date range that you've selected.

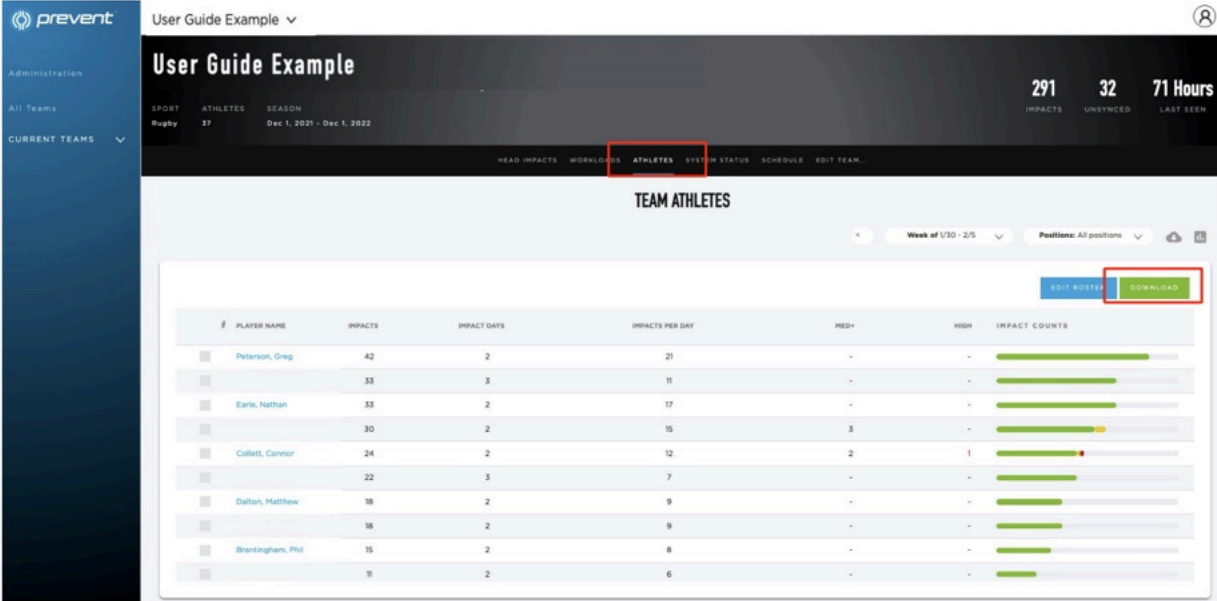
The first page will show you a table with the "Top 5 Collision Workloads", a graph showing "Total Impacts" and notify you of any Impacts above 50g. The second page has a graph that contains athlete specific impact loads. This graph will have the day's impact load as well as the historical average workload. The third page displays a graph that shows the impacts by time period.



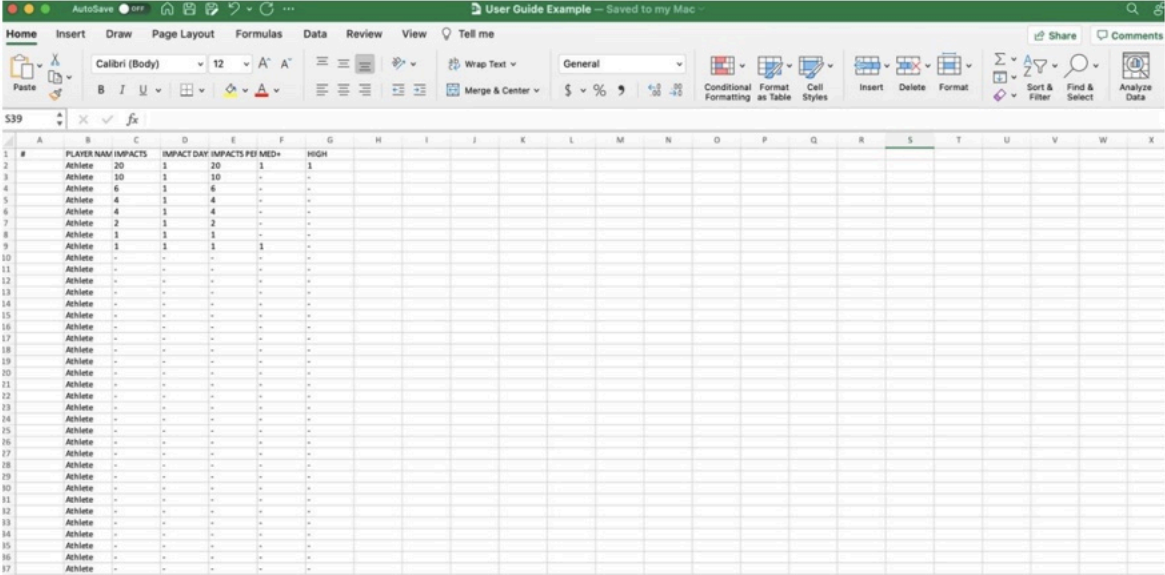
### ATHLETE SUMMARY REPORT

The third type of report you can run is an "Athlete Summary" report. In order to run this report, you must be underneath the "Athletes" tab within your team page. Once you are there, you will want to select the green "download" icon. This will initiate a an excel file download.

PREVENT BIOMETRICS USER GUIDE



Once you’ve selected “download” and opened the download, the report will generate. In this report you will see athlete specific detail related to their impacts. Information regarding the number of impacts, number of days, number of impacts per day, and magnitude of an impact will all be displayed within this report.

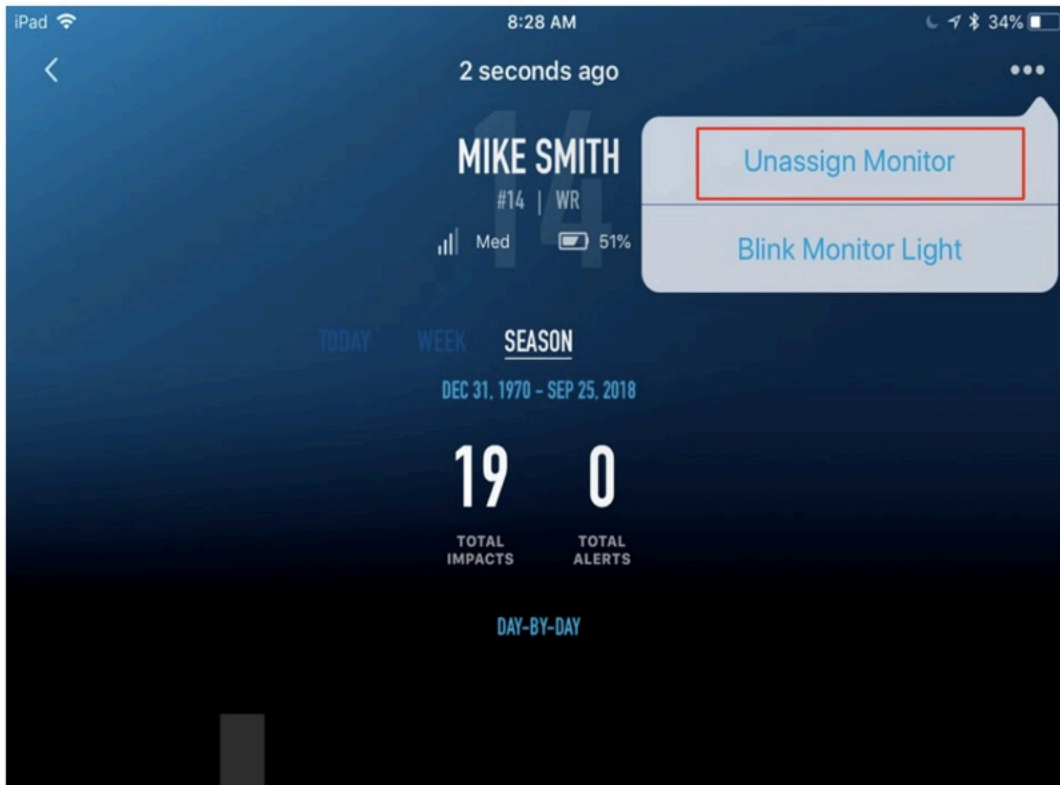




## 5. PREVENT APP OPERATIONS

### UNASSIGNING MONITORS IN THE TEAM APP

As mentioned early there are two options for unassigning a mouthguard: in the Portal and in the App. This section will walk you through the steps of unassigning mouthguards in the iOS App. If an IMM must be unassigned from an athlete, click the 3 dots in the upper right-hand corner of the player page and select “Un-assign Monitor”:



Once unassigned, the player will drop to the bottom of the team list and will now have the option to assign a new IMM.

### SYNCED DATA

Following a session with the mouthguards, you will want to sync the data to the app. To do this, you will need to open the iOS app next to the team charging case for 10 minutes, or until the green check mark “All available data uploaded” appears in the tasks page. Once the check mark is displayed, your data syncing is complete.



**IMM FIRMWARE UPDATE**

Initially and periodically, your IMM(s) will need updated firmware. This will be evident by the appearance of a red “Update” button on the player’s pane in the team app when connected to the IMM. Firmware updates are best done when the IMM is charging. Ensure that you have an internet connection on the app device, and simply press the “Update” button and confirm. The firmware update will take 15-30 seconds per device.

**ATHLETE DETAIL**

Tap on an athlete’s bar to open the Athlete Detail page. Here you will see various information regarding linear and angular readings, the location of the impact and the magnitude of the impact. When an athlete’s IMM records an impact, it will appear in this



Impacts can be viewed within the context of Today, this Week, and this Season. To view impacts in the past, select the Season view and select a date in the past.



## **6. IMM OPERATION**

The impact monitor is always on and active whenever it is charged. There is no preparation required after removing it from the charger. Simply wear it in your mouth like a normal mouthguard, and monitor measurements with the Prevent Team App.

### SYNC BEFORE AND AFTER USE

For best data results, the IMMs should be synced often with an iOS device. This is done by simply ensuring that the app is open on an iOS in proximity to the IMMs. It is especially important that all devices are synced before use as close to the beginning of the use event as possible. This allows the IMMs to have the correct time of day, so that the app can most accurately display the correct time of the impact event. It is also important to ensure that the app is synced with the IMMs after use. Again, this is achieved by opening the app on an iOS device in proximity to the IMMs.

### FUNCTIONALITY CHECK

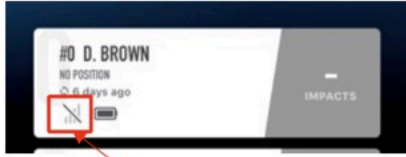
Before use, the IMMs should be checked for functionality. About 5 seconds after being removed from the charger, the IMM should blink green for 10 seconds. Please note, this will only occur when the IMM is taken off active charging, so the charger case must be lit green when removed (not red or blue). If this does not occur, ensure that the IMM have been charged at least 30 mins.

While viewing the team page in the team app, ensure that all monitors are displaying that they are actively connected to the app via Bluetooth (BLE). This ensures that the monitors are charged, active, and functioning. If these checks are successful, the IMMs are ready for use. If not, please see the troubleshooting section.

## **7. SYSTEM TROUBLESHOOTING**

### IMM NOT CONNECTING TO THE TEAM APP

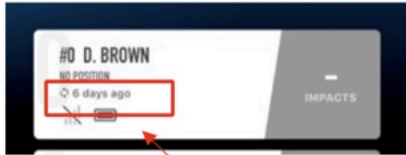
This section should be used when a previously functional IMM no longer syncs or shows BLE signal. This is generally evident by a player tile that consistently does not show BLE signal and shows a “last sync” inconsistent with the rest of the team:



Indicating **no** Bluetooth signal



Indicating **good** Bluetooth signal



Mouthguard **isn't** currently connecting



Mouthguard **is** currently connecting

## TROUBLESHOOTING STEPS

### **1. Check for a green indicator on the IMM**

Remove the individual charger case of the IMM in question and re-insert for a moment. Remove the charger cases, up the lid, and view the IMM. After 5 seconds, the IMM should start blinking green. If a green indicator is present, the IMM is fully functional. Continue directly to step 6. If no green indicator is present on the IMM, continue to step 2.



### **2. Ensure that the IMM is properly in the case and has been charging for at least 5 minutes.**

The indicator LED on the solo case should blink green, not red or blue. If the LED is red, ensure that IMM is in the case. If the LED is blue, ensure that the back-left portion of the IMM is secured tightly against the back of the solo case, and the IMM is pressed fully to the base of the case. If the IMM is properly aligned in the case and the red light remains, please contact Prevent for a replacement IMM.



**3. Remove the individual case from the team case and re-insert the individual case**

This will restart the charging cycle. This first cycle applies a higher power wireless charge, which may help wake a stubborn IMM.

**4. If the device still will not sync**

If the device continues to show no BLE signal and does not update the “last sync” indicator, it will need to be replaced. Before replacing and re-fitting, look for indications of chewing that may have damaged the mouthguard. If chewing damage is evident, please instruct the athlete to refrain from chewing before giving them a replacement. The IMM will not withstand chewing, twisting, and helmet jamming, especially on the battery and charging coil. Examples of abuse are below:



## 5. IMPACT MONITOR – CHARGING

### SOLO CHARGING CASE

Place the IMM in the charging case and securely close the lid. The way the mouthguard is placed in the solo case is very important. Ensure the IMM is pushed all the way down in the charging case, and ensure each solo case is labeled with a key identifier to each athlete.



Mouthguard should not be raised off the bottom panel.



Mouthguard should not be sitting flat side up and away from back wall.



Mouthguard is lying flat side down on bottom back coil is flush against side and back wall.






Unique identifier (e.g first name) should be and placed on front white label.

### CHARGING VIA USB CABLE (Individual Charger)

Plug the charging case into a USB micro cable plugged into a USB power source.



## INDICATOR LIGHTS

-  CHARGING
-  IN CASE BUT NOT ALIGNED, INVESTIGATE
-  NOT IN CASE, OR MALFUNCTIONING

Use iOS app to confirm monitor functionality for Blue & Red Solo Cases  
Please contact [support@preventbiometrics.com](mailto:support@preventbiometrics.com) with any questions



The first 10 seconds of the charging cycle the solo case LED will blink white, and then follow the indicator lights above. The IMM should emerge from sleep mode within about 1 minute of charging and should be fully charged in 70 minutes.

### CHARGING WITH TEAM CASE

Plug the charging solo case into any slot in the team case. Refrain from jamming the case into the slot with force – it should slide into the slot with ease. Ensure the team case is plugged into a power source when charging. All solo cases with mouthguards in them should be displaying a green LED light when they are charging.



## INDICATOR LIGHTS

- CHARGING
- IN CASE BUT NOT ALIGNED, INVESTIGATE
- NOT IN CASE, OR MALFUNCTIONING

Use iOS app to confirm monitor functionality for Blue & Red Solo Cases  
Please contact [support@preventbiometrics.com](mailto:support@preventbiometrics.com) with any questions

If you see a blue or red LED light, make sure that the mouthguard is properly placed in the solo case, with teeth down and pushed all the way against the back wall.

### TEAM CASE AUXILIARY CHARGING PORT

The team case includes an auxiliary USB charging port at the bottom of the case. The port is rated for 1A charging and can be used to charge a smartphone or tablet.





### **FCC Compliance Statement**

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions:

(1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

**CAUTION:** The grantee is not responsible for any changes or modifications not expressly approved by the party responsible for compliance. Such modifications could void the user's authority to operate the equipment.

**NOTE:** This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy, and if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

### **Canadian Compliance Statement**

This device contains license-exempt transmitter(s)/receiver(s) that comply with Innovation, Science and Economic Development Canada license-exempt RSS(s). Operation is subject to the following two conditions:

- (1) This device may not cause interference.
- (2) This device must accept any interference, including interference that may cause undesired operation of the device.

L'émetteur/récepteur exempt de licence contenu dans le présent appareil est conforme aux CNR d'Innovation, Sciences et Développement économique Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes :

- 1) L'appareil ne doit pas produire de brouillage;
- 2) L'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.