

# Phase 2 Visual Rules Guide






**DARPA  
TRIAGE  
CHALLENGE**

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# Report Types: Overview

	Initial	Initial Supplement	Update
Purpose	 <p>First identification &amp; clinical assessment</p>	 <p>Additional initial assessment</p>	 <p>Update assessment if status changed</p>
Fields*	<p><b>LOCATION</b> <b>CASUALTY ID</b></p> <p><i>Any assessment field(s)</i></p>	<p><b>CASUALTY ID</b></p> <p><i>Any assessment field(s)</i></p>	<p><b>LOCATION</b> <b>CASUALTY ID</b></p> <p><i>Any re-assessment field(s)</i></p>
Notes	<ul style="list-style-type: none"> <li>The reported location must be within <b>4m</b> of the true casualty location</li> </ul>	<ul style="list-style-type: none"> <li>Re-reported fields will be ignored</li> <li>No limit on number of supplement reports</li> </ul>	<ul style="list-style-type: none"> <li>1 accepted per casualty</li> <li>Submitted non-reassessment fields will be ignored</li> </ul>

\* **TEAM** and **SYSTEM** fields are required for all reports

**BOLD CAPS** in the *Fields* section indicate additional required fields for each report type

Rules 9.8.2

# Initial Report

The initial casualty report is the first report on a newly found casualty.

- It must contain the following fields:
  - **Location**
  - **Casualty ID\***
  - **System**
  - **Team**
- It may additionally include any of the following health assessment field:
  - Severe Hemorrhage
  - Respiratory Distress
  - Heart Rate
  - Respiratory Rate
  - Trauma – Head
  - Trauma – Torso
  - Trauma – Upper Extremity
  - Trauma – Lower Extremity
  - Alertness – Verbal
  - Alertness – Motor
  - Alertness – Ocular

\* New casualty ID not reported previously in run

# Initial Report: Examples

## Initial Report

```
"casualty_id": 1,  
"team": "example",  
"system": "example_UGV"  
"location": {  
  "latitude": 32.494828 ,  
  "longitude": 83.750875,  
  "time_ago": 60  
}
```



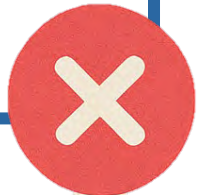
## Initial Report

```
"casualty_id": 2,  
"team": "example",  
"system": "example_UGV"  
"location": {  
  "latitude": 32.494828 ,  
  "longitude": 83.750875,  
  "time_ago": 60  
},  
"severe_hemorrhage": {  
  "value": 1,  
  "time_ago": 50  
}  
"respiratory_distress": {  
  "value": 0,  
  "time_ago": 75  
}
```



## Initial Report

```
"casualty_id": 1,  
"team": "example",  
"system": "example_UGV"
```



INVALID: no "location" field.

# Initial Supplement

The initial supplement report can be used to fill in remaining initial health assessment for a previously located and identified casualty.

- It must contain the following fields:
  - **Casualty ID\***
  - **System**
  - **Team**
- It may additionally include any of the health assessment fields (see Slide 4)
- Re-reported fields for the same Casualty ID **will be ignored**
  - Location will always be ignored if provided in initial supplement report
- There is **no limit** to the number of initial supplement reports

\* Casualty ID must have already been reported in initial report

# Initial Supplement: Examples

## Initial Supplement

```
"casualty_id": 2,  
"team": "example",  
"system": "example_UGV",  
"alertness_ocular": {  
  "value": 1,  
  "time_ago": 50  
}  
"trauma_head": 0
```



## Initial Supplement

```
"casualty_id": 1,  
"team": "example",  
"system": "example_UGV",  
"location": {  
  "latitude": 32.494828 ,  
  "longitude": 83.750875,  
  "time_ago": 60  
},  
"alertness_verbal": {  
  "value": 2,  
  "time_ago": 120  
}
```



Ignored field

## Initial Supplement

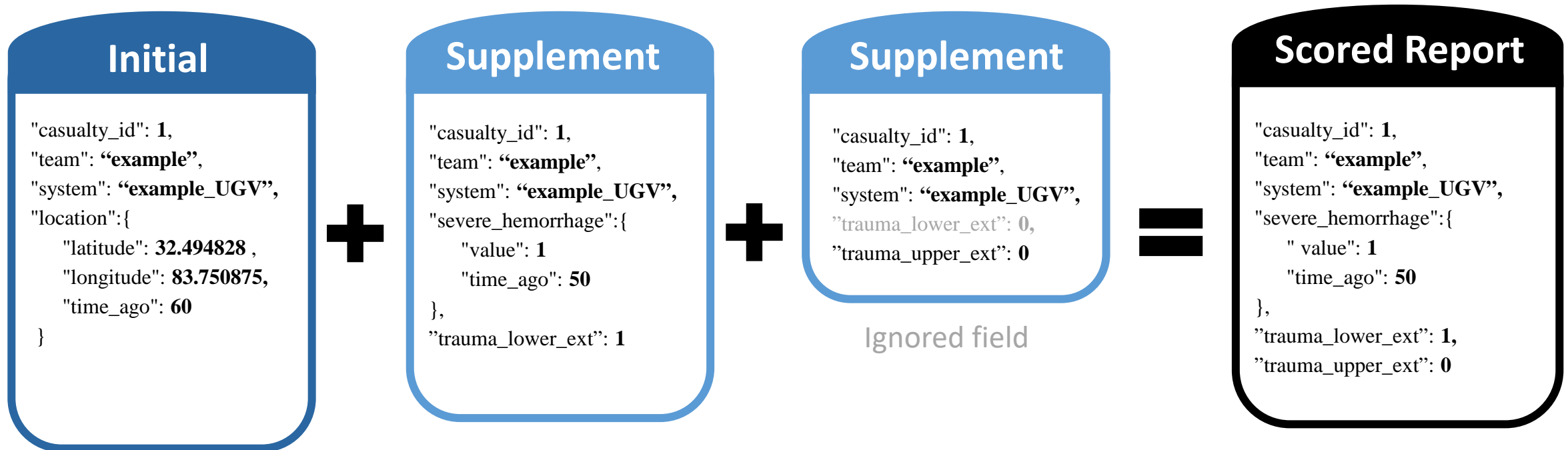
```
"team": "example",  
"system": "example_UGV",  
"trauma_head": 0
```



INVALID: no "casualty\_id" field.

# Initial Scored Report

The Initial report and Initial Supplement report(s) are combined for scoring initial assessment:



# Report Limits

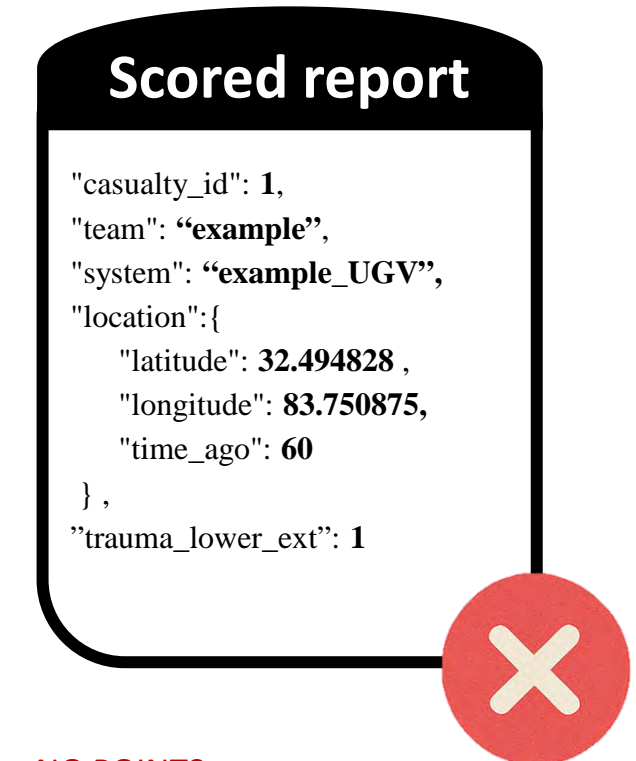
The DARPA Command Post will limit the total number of reported casualties that can be submitted during a run. Any report submitted with a **unique casualty ID** will count toward the report limit.

The report limit is equal to the total number of ground truth casualties + 5.

# Minimum Report Requirements

To be eligible for points, the scored report (composite of Initial Report and any Supplement Reports) must include **at least 3 of the health assessment fields**:

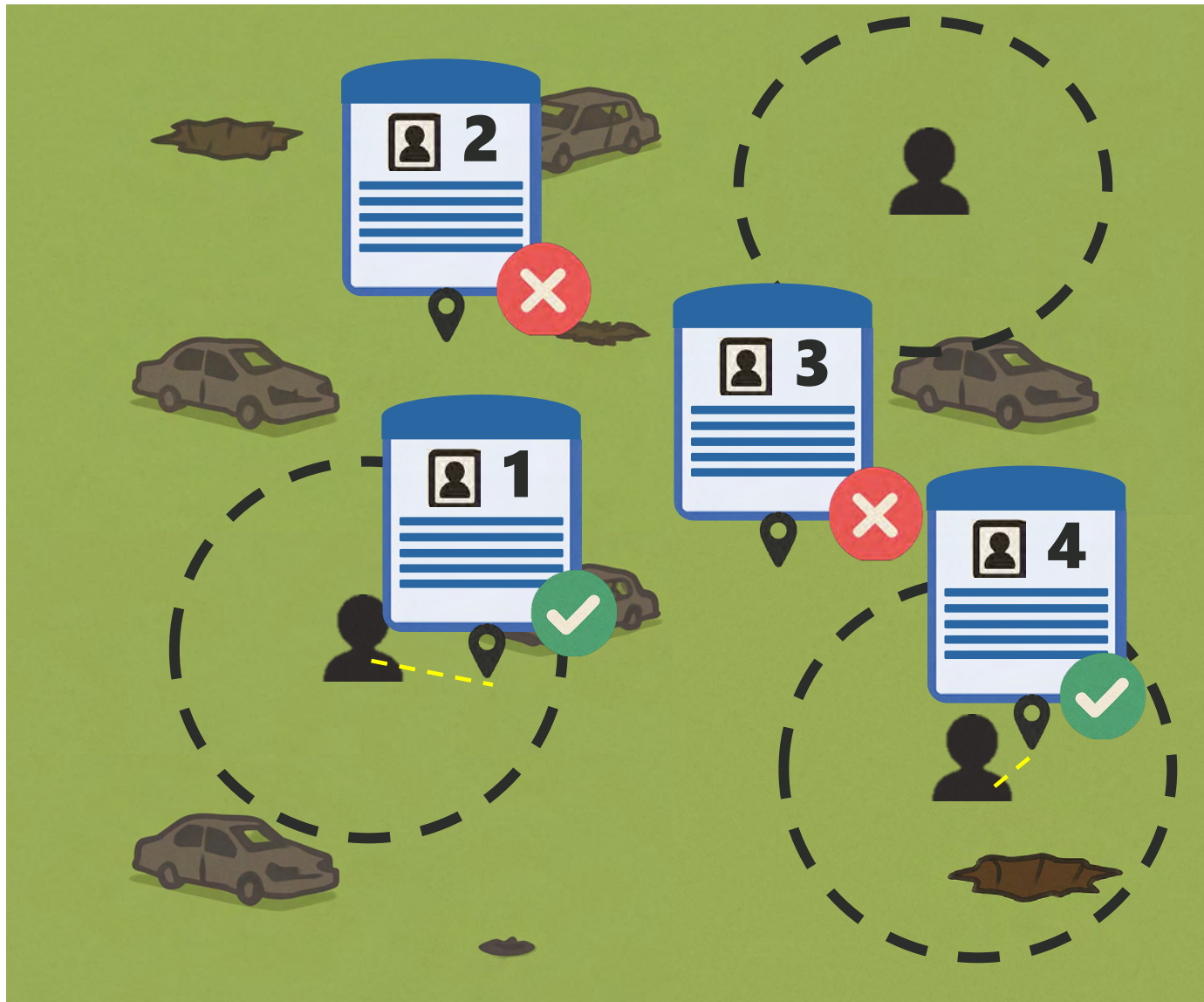
- Severe Hemorrhage
- Respiratory Distress
- Heart Rate
- Respiratory Rate
- Trauma – Head
- Trauma – Torso
- Trauma – Upper Extremity
- Trauma – Lower Extremity
- Alertness – Verbal
- Alertness – Motor
- Alertness – Ocular



**NO POINTS:**  
Less than 3 health assessment fields.

# Minimum Distance Requirement

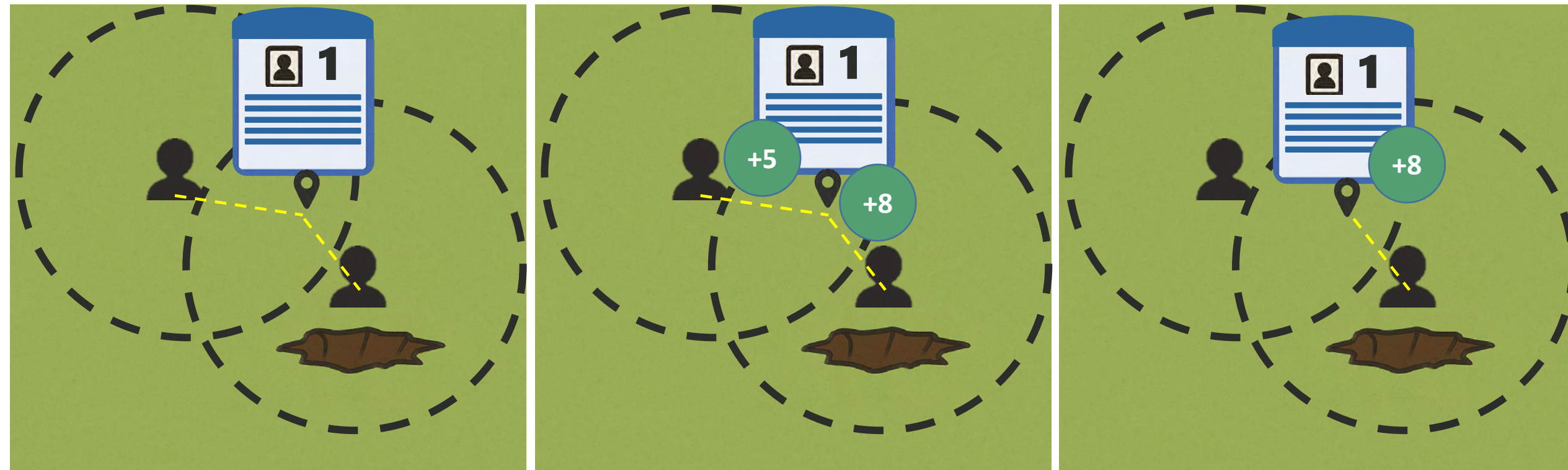
To associate the Casualty Report with a ground truth casualty, the reported location in the initial report must be within a 4 m radius of the ground truth casualty location.



(See Graphics Key at end of deck)

# Report Association (1 of 3)

If there is more than one casualty within the distance requirement from the reported location, **the ground truth casualty which awards the most points** will be associated with the Casualty Report.

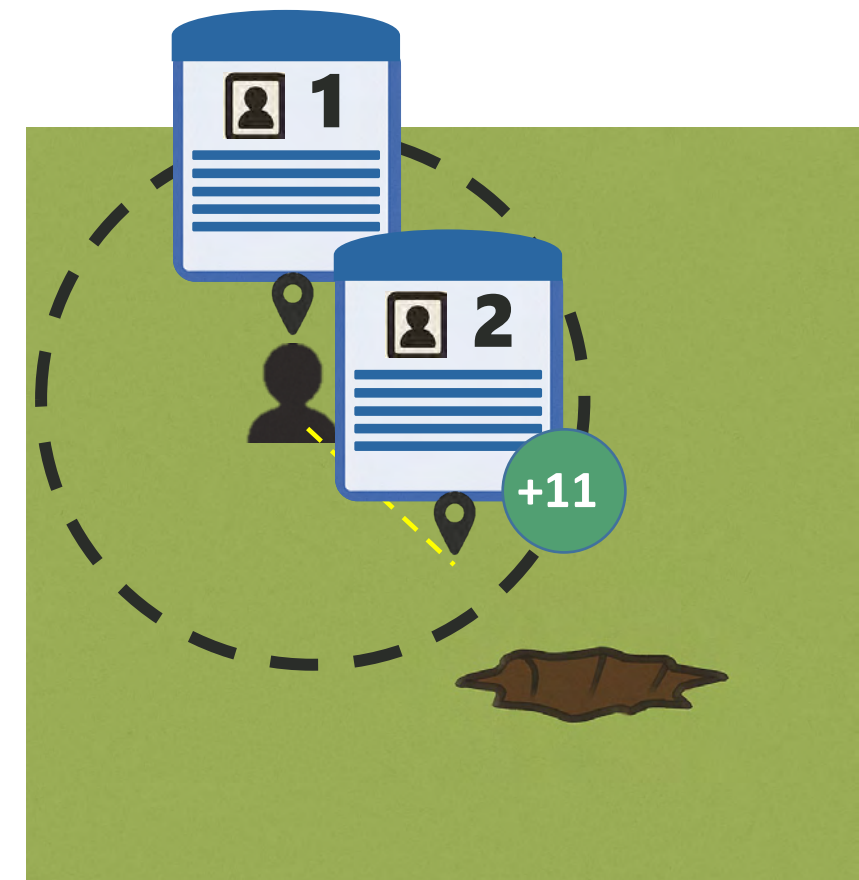
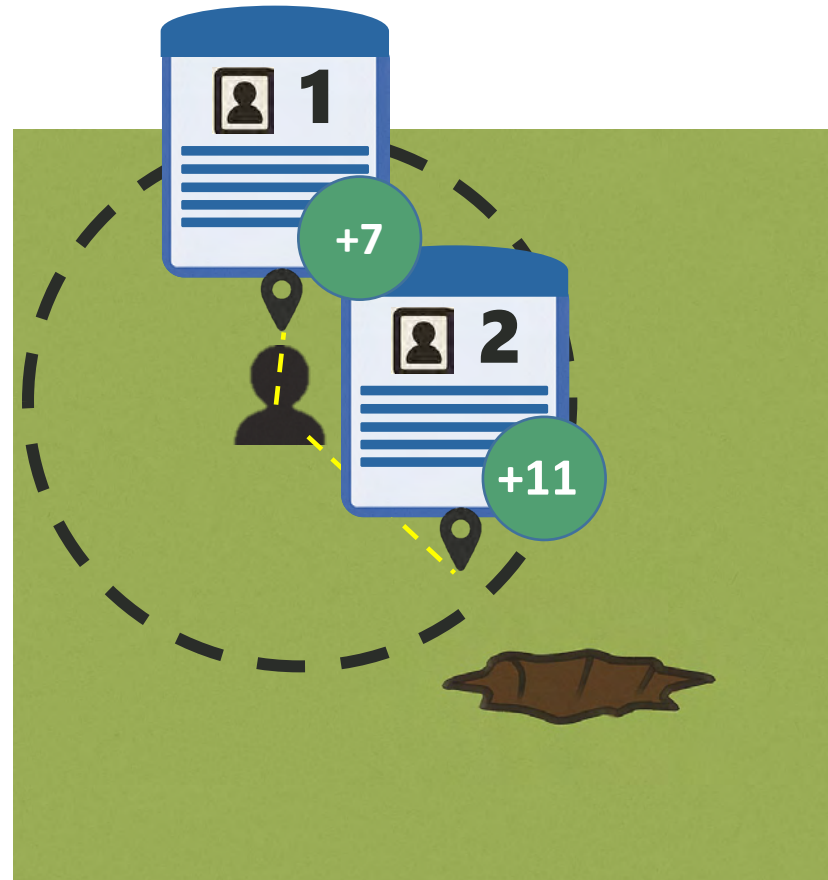


(See Graphics Key at end of deck)

Rules 9.8.2.1

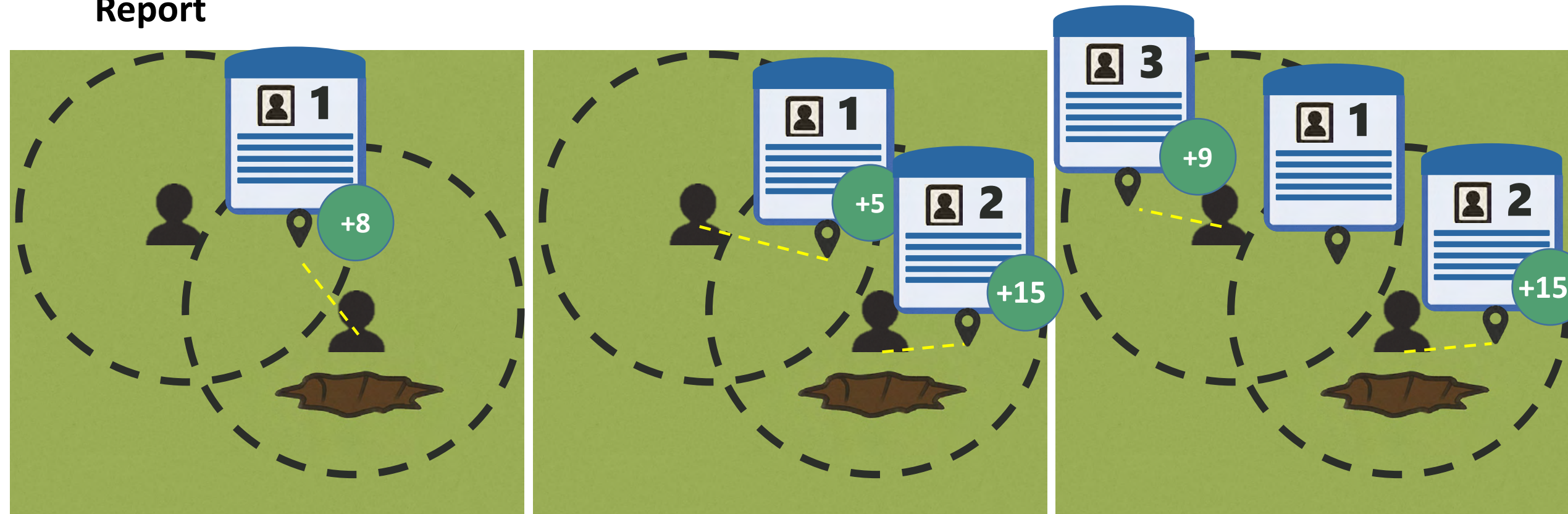
# Report Association (2 of 3)

If a subsequent Casualty Report awards **more points** for the same ground truth casualty, **it will supersede the previously associated Casualty Report.**



# Report Association (3 of 3)

Association will be **recomputed upon each report submission** to maximize the possible points awarded to the team within the location constraint. For each ground truth casualty, **teams may only receive points from a single associated Casualty Report**



(See Graphics Key at end of deck)

# Initial Supplement Association

Initial Supplement Reports are associated with remaining reports by Casualty ID. The reported location from the first Initial Report is used for scoring.



(See Graphics Key at end of deck)

# Update Report

An update report is submitted to communicate any changes in the condition of a previously assessed casualty.

It must contain the following fields:

- **Location**
- **Casualty ID\***
- **System**
- **Team**
- It may additionally include any of the following health assessment field:
  - Severe Hemorrhage
  - Respiratory Distress
  - Heart Rate
  - Respiratory Rate
  - Alertness – Verbal
  - Alertness – Motor
  - Alertness – Ocular

\* Only the first update report submitted for each unique casualty ID will be scored

# Update Report: Examples

## Update Report

```
{
  "casualty_id": 1,
  "team": "example",
  "system": "example_UGV"
  "location": {
    "latitude": 32.494828 ,
    "longitude": 83.750875,
    "time_ago": 60
  },
  "trauma_head": 0,
  "trauma_torso": 0,
  "trauma_upper_ext": 0,
  "rr" : {
    "value": 28,
    "time_ago": 60
  }
}
```



Ignored field

## Update Report

```
{
  "casualty_id": 1,
  "team": "example",
  "system": "example_UGV"
  "location": {
    "latitude": 32.494828 ,
    "longitude": 83.750875,
    "time_ago": 60
  },
  "alertness_verbal": {
    "value": 1,
    "time_ago": 120
  },
  "alertness_motor": {
    "value": 1,
    "time_ago": 20
  }
}
```



## Initial Report

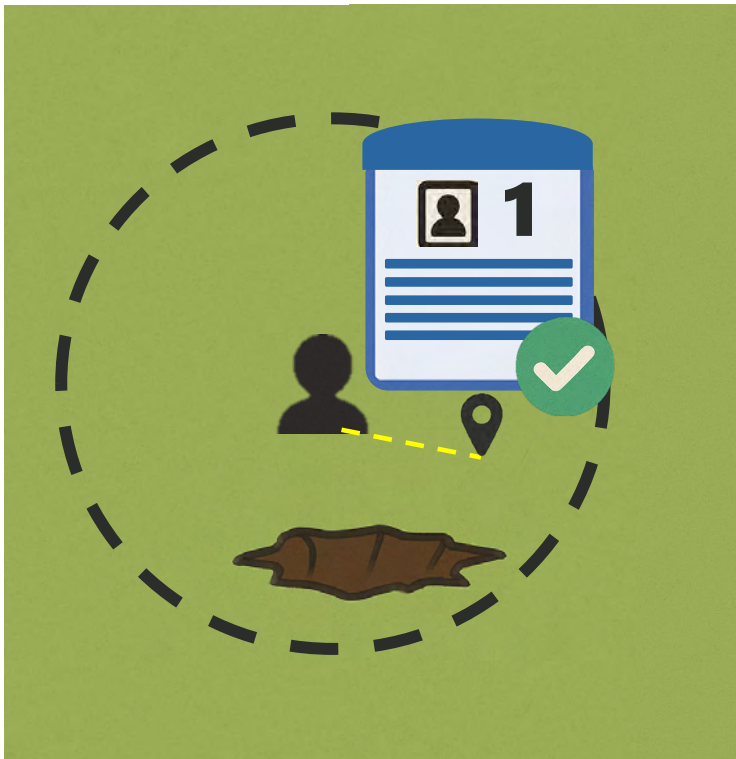
```
{
  "team": "example",
  "system": "example_UGV"
  "location": {
    "latitude": 32.494828 ,
    "longitude": 83.750875,
    "time_ago": 60
  },
  "hr" : { "value": 85,
    "time_ago": 60 }
}
```



INVALID: no "casualty\_id" field.

# Update Report Limit

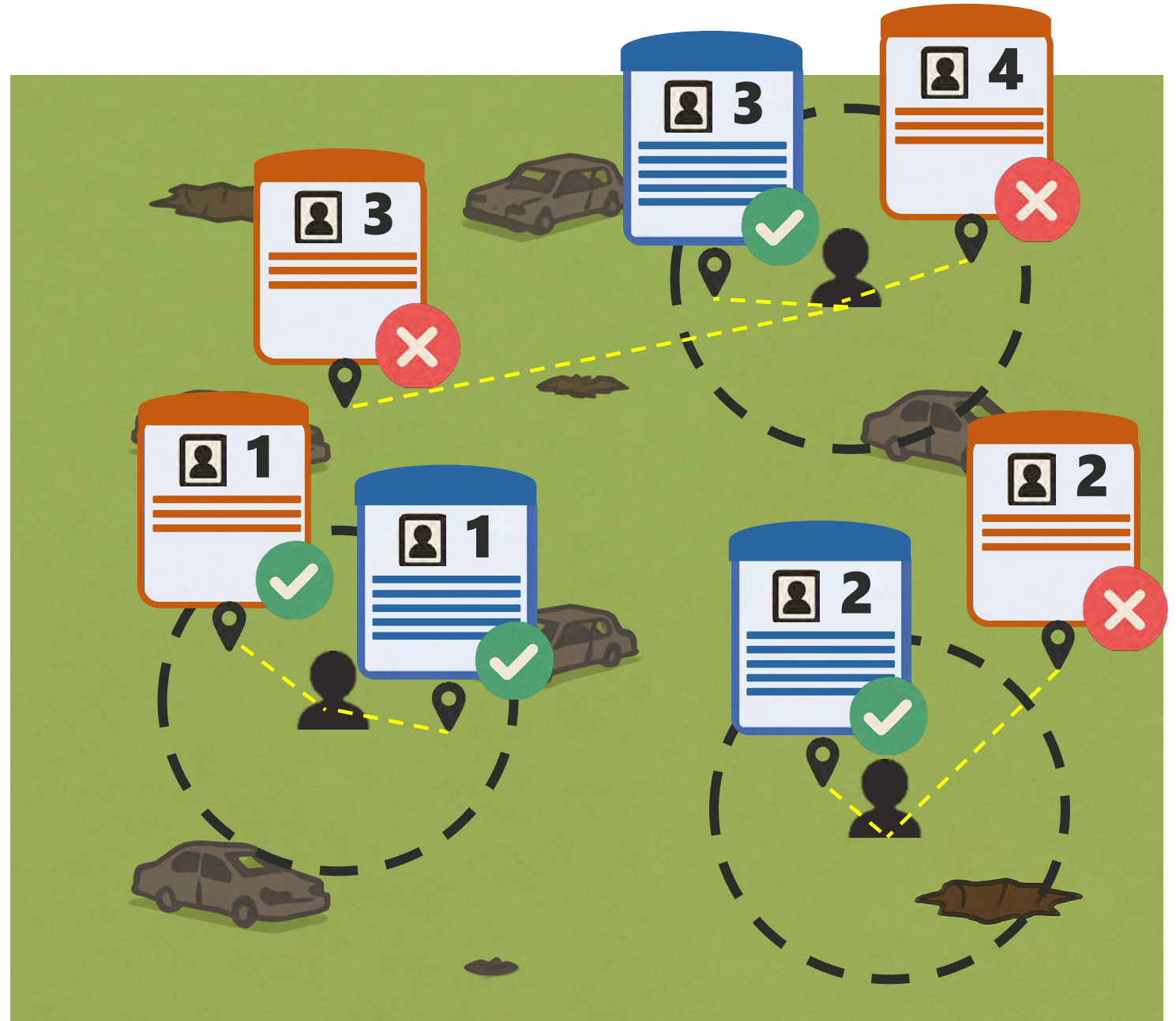
Only one reassessment report per casualty ID will be accepted.



# Update Scoring

Requirements for receiving points from an Update Report:

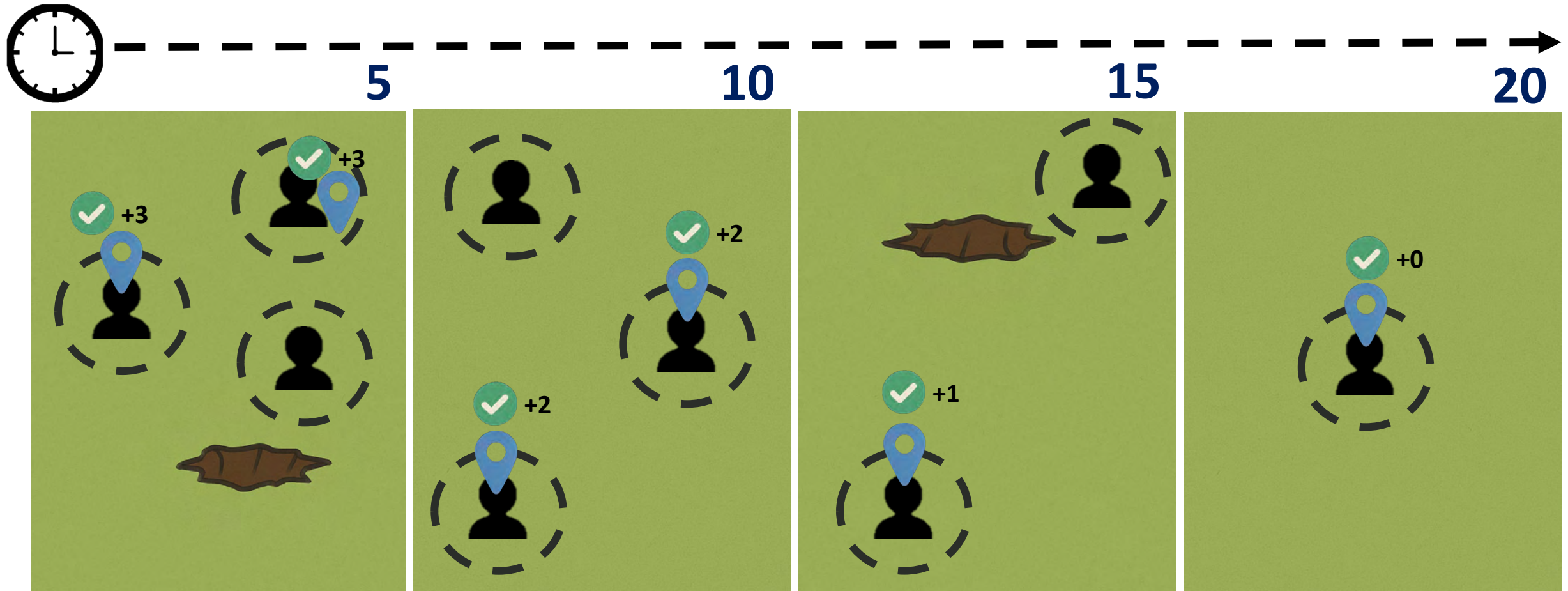
- Location must be **within 4m of the same casualty** associated to the Initial Report with the same casualty ID
- For each field, points only awarded **if status has changed** since Initial Report
- For each field, **Initial Report and Update must be correct** in order to receive points



(See Graphics Key at end of deck)

# Rapid Location Bonus

To incentivize rapid reporting of casualty locations there will be **additional bonus points for earlier reporting**. Bonus points will be awarded if the scored report meets minimum report requirements (see slide 10) according to the receipt time of the **Initial Report**.

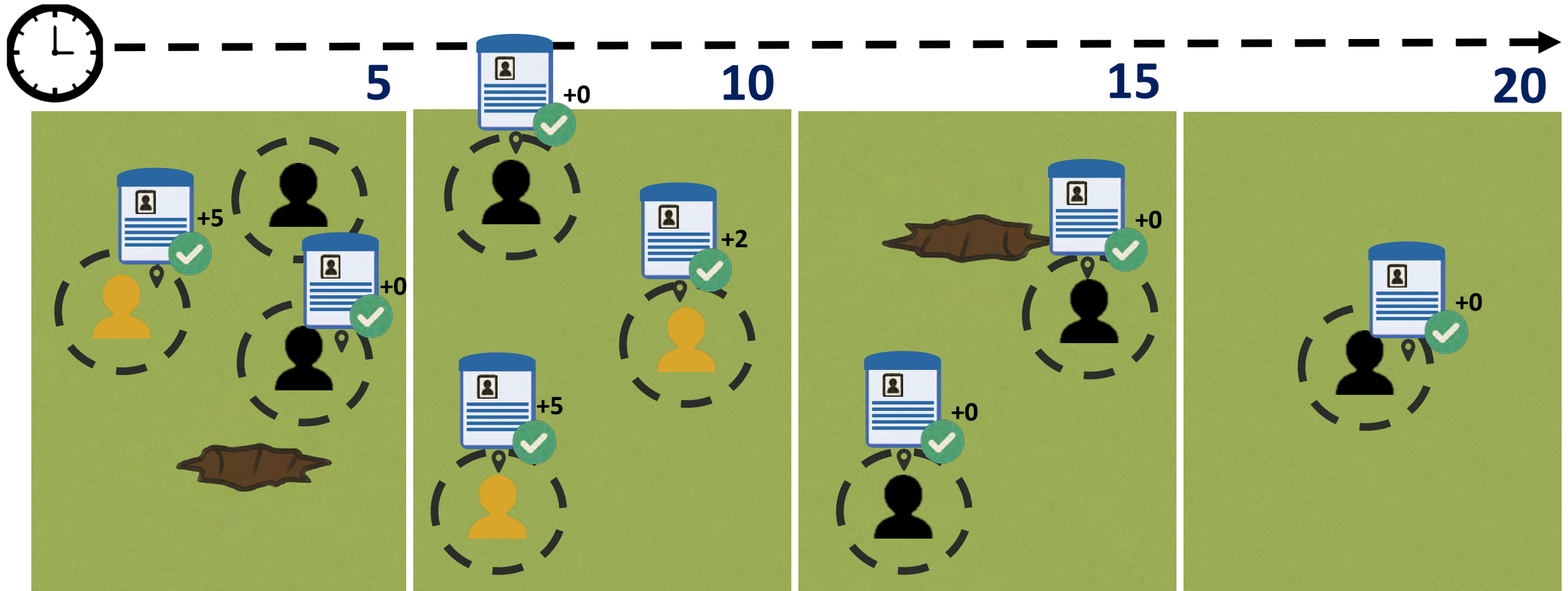


(See Graphics Key at end of deck)

Rules 9.8.4

# Golden Window Bonus

To incentivize rapid assessment of time-critical information, bonus points may be awarded for early reports containing the following fields: **Severe Hemorrhage, Respiratory Distress, Heart Rate, and Respiratory Rate**. The duration of the golden window will be **tailored to each casualty** indicating urgent need for care.

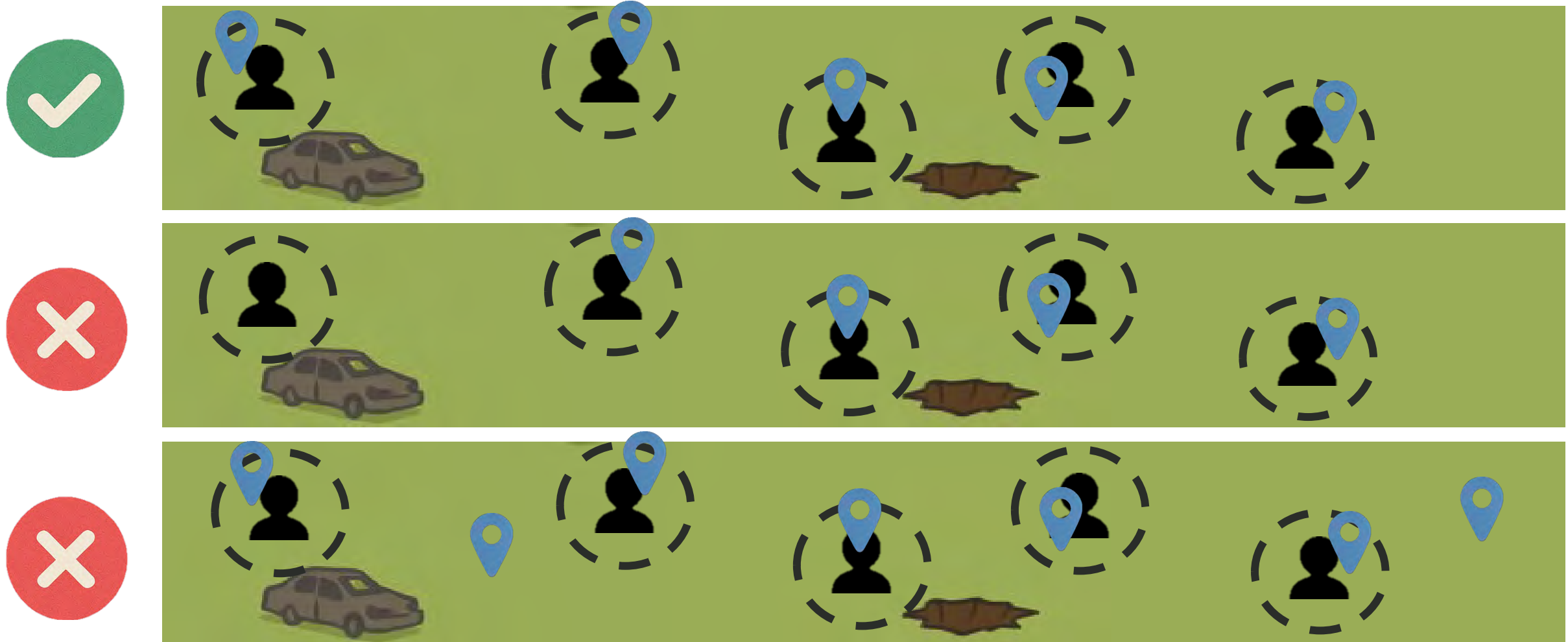


(See Graphics Key at end of deck)

Rules 9.8.3.2

# Casualty Count Bonus

At completion of a run, teams will receive 10 bonus points for correctly locating all casualties in the scenario without additional (false positive) casualty reports. All reported casualties must meet minimum report requirements.



(See Graphics Key at end of deck)

# Graphics Key



Reported casualty id

Initial Report



Supplement Report



Update Report



Scored Report



Unscored Report



Ground truth (GT) casualty



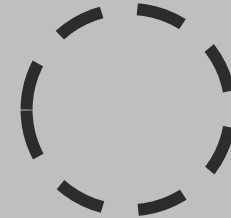
GT casualty w/ active golden window



Reported location



Association between Report and GT casualty



4 meter  
scoring radius