

Introduction:

Gridlocked is an interactive game meant to teach those involved in emergency care about the systems level considerations involved in running an emergency department. This game was co-designed with emergency medicine faculty and medical students and can also be used as an important learning tool by incorporating the use of tailored lesson plans to allow players to focus on learning certain objectives.

Lesson plans can be developed in order to tailor learning towards specific objectives. See our website for lesson plans we have created with objectives we consider important in mind. You may also complete the lesson plan template below to develop your own lesson plan. This will involve you filling out the specific goals of the plan, as well as the changes to game setup and gameplay required to achieve these learning goals. Be sure to share your plans with us @GridlockedGame on Twitter.

Section I: Scenario Details

Scenario Title	Diagnostic Imaging Overwhelmed
Scenario Developer(s)	Varun Srivatsav
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Date of Development	July 2018
Target Learning Group	Medical students/residents, allied health students (Consider playing with members of the DI team)
Expansion Pack Required	No
Summary of Scenario	The Emergency Department often requires accurate and timely imaging and investigations to be ordered to come at an appropriate diagnosis. Often, there are shifts in the emergency department where multiple patients need investigations before diagnosis, management and final disposition for the patient can be decided.
Learning Goals	<ul style="list-style-type: none"> • Learning to be efficient when waiting for the results of multiple diagnostic investigations • Understanding when certain diagnostic investigations are indicated (many possible imaging discussions are catalogued below; scenario facilitators can choose which discussions they would like to have) • Maintaining collegiality with radiology colleagues when requesting various diagnostic imaging • Maintaining a positive team atmosphere when interacting with nurses and other allied health staff <p><i>Many potential discussions surrounding various imaging modalities have been included. Game facilitators can pick and choose certain discussions depending on time constraints and the interests of the players. The discussions can be had during the game, or at the end of the session, depending on the preference of the learners.</i></p>
Approximate Timing	1 hour of game play, but if integrating teaching then may take 2-3 hours.

Section II: Scenario Setup

This section will teach you how to set up the game to achieve the learning goals mentioned above. Most of the variation in setup comes from the deck setup section, which will outline the desired order of the patient and event cards. The board setup will tell you how (if at all) you should set up the board differently to start the game.

Scenario Vignette:	You're a group of doctors and nurses in the ED and there are currently multiple patients that require diagnostic imaging.							
Deck Setup:	<table border="1" style="width:100%; text-align:center;"> <tr> <th style="width:25%;">Cards 1-10</th> <th style="width:25%;">Cards 11-20</th> <th style="width:25%;">Cards 21-30</th> <th style="width:25%;">Cards 31-40</th> </tr> </table>				Cards 1-10	Cards 11-20	Cards 21-30	Cards 31-40
	Cards 1-10	Cards 11-20	Cards 21-30	Cards 31-40				
	CTAS 1-9 CTAS 1-8 CTAS 4-17 CTAS 4-18 CTAS 5-5 CTAS 5-7 CTAS 1-4 CTAS 2-4 CTAS 2-6 CTAS 5-12	CTAS 2-1 <i>[Can discuss CT Head Rules. See debrief section for prompting questions.]</i> CTAS 1-10 CTAS 2-10 CTAS 3-21 CTAS 3-22 E-23 Mistrriage CTAS 3-25 CTAS 1-2 CTAS 2-14 CTAS 2-3 <i>[Can discuss an approach to reading chest X-rays. The facilitator can project different chest X-rays and help students build an approach.]</i>	CTAS 3-3 CTAS 3-4 CTAS 1-5 CTAS 1-6 CTAS 4-7 CTAS 4-8 CTAS 1-11 E-4 You bring the nurses coffee! <i>[Can discuss how radiology was left out!]</i> CTAS 4-6 <i>[Can discuss C-spine rules.]</i> CTAS 4-9	CTAS 3-27 CTAS 2-15 CTAS 1-7 CTAS 3-30 CTAS 4-13 <i>[Can discuss an approach to reading KUB X-rays (has not been ordered on this card but would still be useful to discuss). The facilitator can project different X-rays and help students build an approach.]</i> CTAS 3-5 CTAS 3-6 E-6 Radiology is backed up CTAS 1-3 CTAS 3-7				
Cards 41-50		Cards 51-58						
CTAS 3-9 E-22 Needlestick Injury CTAS 3-10 CTAS 2-21 CTAS 2-25 <i>[Can discuss an approach to reading abdominal X-rays. The facilitator can project different X-rays and help students build an approach.]</i> CTAS 4-2 CTAS 4-5 CTAS 1-12 CTAS 3-2 CTAS 2-23	CTAS 1-1 <i>[Can discuss indications for imaging in women with pregnancy related concerns and when to avoid certain imaging modalities in pregnant patients.]</i> CTAS 2-24 CTAS 3-15 CTAS 3-16 CTAS 3-17 CTAS 3-20 CTAS 2-7 <i>[Can discuss the application of PERC and WELLS scores (DVT and/or PE) for either this card or the card above.]</i> E-14 Gridlocked							
The rest of the cards can be shuffled and arranged randomly.								
Board Setup:	No changes							



Other Changes:	None
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Section III: Debriefing Guide

Why is this learning goal important?	In the Emergency Department, it is vital to determine when imaging is indicated, and if so, which imaging modality would be most useful. It is also important to be efficient when managing multiple patients that are waiting for diagnostic tests.
What were the key moments or decisions that took place during the game?	<p><i>Many potential imaging discussion topics have been included below. The facilitator can pick which imaging tools to discuss and can choose to ask as few or as many of the following questions:</i></p> <p>Potential imaging tool discussion topics:</p> <ul style="list-style-type: none"> • Do students understand that the CT head rules is a one-way decision rule? Can someone summarize the main tenets of the rule? How was it used for the cases in the game? Were there some CTs ordered when it did not follow the rules? Are there any questions that students may have about the CT head rules? • Facilitators can deliver an approach to Chest X-rays. How was it used for the cases in the game? Do students understand the main tenets of interpreting a chest x-ray? • Do students understand when to apply the PERC rule and the Wells score for DVT and PE? How was it used for the cases in the game? Were there some tests ordered in the game when it did not follow the rules? • Facilitator can deliver an approach KUB X-rays. Would it have been useful for the case in the game? Do students understand the main tenets of interpreting a KUB X-ray? • What are some indications for imaging in women with pregnancy related concerns? What are some imaging modalities to avoid? How was it used for the case in the game? • Facilitators can deliver an approach to the abdominal X-ray. How was it used for the cases in the game? Do students understand the main tenets of interpreting an abdominal x-ray? • Can a student summarize the main tenets of the C-spine rules? How was it used for the cases in the game? Was there some imaging ordered when it did not follow the rules? • Can a student summarize the main tenets of the Ottawa ankle rules? <p>Other questions:</p> <ul style="list-style-type: none"> • Why is it important to foster a collegial environment with other health care professionals such as nursing when there are many patients to be seen? What are some ways to build a good relationship with nursing and allied health to foster good patient care? • How does the CTAS system work? What is a misriage? What can be done to avoid a mis triage? • How can you be efficient when multiple patients are waiting for radiological

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Lesson Plan 5 – Overwhelming Diagnostic Imaging

	<p>evaluation? What can be done to prevent wait times from increasing in the emergency department?</p> <ul style="list-style-type: none"> • What can be done to maintain collegiality with radiological staff when asking for multiple imaging studies to be conducted?
<p>What went well?</p>	<p><i>The following two sections can be dedicated to discuss game process and learning points regarding teamwork.</i></p> <p>Do you think this is an accurate representation of a shift with many imaging requirements? Did you work together well as a team?</p>
<p>What went poorly?</p>	<p>Were there any points during the game that were stressful? How did you find managing resources appropriately when waiting for multiple patients to be imaged?</p>
<p>What would you change next time you are in this type of scenario?</p>	

