# Brigham & Women's Hospital Trauma Team

## Roles, Responsibilities, and Team Dynamics

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## I. Team Composition

- The Trauma Team will be composed of physicians from the Department of Emergency Medicine, the Department of Surgery Division of Trauma, Emergency Department Nursing, and Emergency Service Associates (ESAs).
    - Specific details regarding roles can be found below.
    - Additional services, including but not limited to anesthesiology, neurosurgery, orthopedics, respiratory therapy and pharmacy may also be requested as part of the Trauma Team.
- The Trauma Team will assemble upon announcement of a trauma activation ("Code Trauma" or "Code Alpha").
    - Ideally this will occur upon notification of an incoming trauma patient but may occur with little or no advanced warning.
- The Trauma Team will assemble in a standardized fashion for all trauma patients.
    - The team may reconfigure "on the fly" under the guidance of the Trauma Team Leader dependent on patient needs and available resources.
- On assembly of the Trauma Team, all team members will don appropriate personal protective equipment and name badges including roles.
    - It is expected that the Trauma Team Leader will introduce himself or herself and confirm all team members are aware of their defined roles.
    - On arrival of the trauma service attending, the attending will announce their arrival and this will be logged by the nurse recorder.

II. EMS Timeout

- On patient arrival, the patient is to remain on the EMS stretcher until completion of an EMS Timeout
    - Exclusion criteria: Cardiac arrest, uncontrolled or unstable airway, uncontrolled severe extremity hemorrhage
- On EMS arrival, the trauma team leader is to announce:
    - "Can we have quiet in the room please? EMS, can you please leave the patient on your cot until after report, and we will take report when you are ready."
- The Trauma Team Leader should ask EMS to remain on scene for an additional two minutes to answer any additional questions, and resuscitation should begin.

III. Team Leadership

- The Trauma Team Leader is ultimately in charge of the trauma resuscitation.
- It is important that this individual NOT participate in any other activities including procedures, airway management, IV placement, medication administration, etc.
- When at all possible, it is expected that a Resident will perform the role of Trauma Team Leader "at the elbow" with either the ED or Trauma attending, as appropriate.
- The Trauma Team Leader is responsible for communicating with the nursing staff regarding all aspects of patient care, including medication administration, laboratory orders, and volume resuscitation.
    - While orders may be placed by any appropriately designated member of the trauma team, all orders should be vetted by the Team Leader.
    - The medication nurse and/or pharmacist should honor verbal orders ONLY from the Trauma Team Leader.
- The Trauma Team Leader role will alternate between the ED service and the Trauma service.
    - The Trauma Team Leader role will alternate every other trauma.
    - The service responsible for leading the next trauma will be recorded on a whiteboard in the resuscitation bay.
- On notification of an incoming trauma, the trauma team will assemble outside of the designated trauma room and perform a "Trauma TEAM Huddle."
    - Team
        - Trauma Team Leader identified
        - Team member introductions
        - Roles assigned
        - Role stickers distributed
    - Equipment
        - Don PPE
        - Arrange and check any specialized equipment that may be necessary based on current knowledge of incoming patient (i.e. thoracotomy tray, rapid transfuser)
    - Anticipate
        - Anticipate additional patient needs
        - Send runner for blood / activate massive transfusion protocol
        - Call for additional staff
        - Notify OR
    - Manage
        - Manage expectations
        - Maintain situational awareness
        - Crowd control

IV. Patient ownership

- The Trauma Team is a multidisciplinary team with members from a variety of different services.
    - It is understood that any patient presenting to the Emergency Department for evaluation and treatment is considered an "ED" patient, with all other services functioning in the role of "consultant" service.
    - While the Trauma Service will enter a history and physical exam, consistent with the practice of all consultant services, the ED team is responsible for entering a history and physical exam consistent with ED departmental policy.
- The ED team is ultimately responsible for patient movement and disposition.
    - The primary ED resident is expected to follow the patient's ED course in collaboration with the trauma surgery service.
    - The ED resident is expected to document an ED assessment of the patient, including medical decision making, consistent with ED department policy.
    - The ED team is ultimately responsible for the patient until the time of patient disposition.
        - In the case that the trauma patient is "cleared" and requires admission to another service, disposition and handover will be the responsibility of the ED team.

V. Team Member Roles

- Attending Physician
    - The Attending in charge of the resuscitation may be from a different service than the resident acting as Trauma Team Leader.
        - If the trauma service is acting as Trauma Team Leader, attending oversight would fall to the ED team until arrival of the trauma service attending.
        - Likewise, the trauma service attending, if present, may help to guide the management of an ED resident leading a trauma resuscitation.
        - This is an opportunity for shared learning and interdisciplinary collaboration.
        - It is understood that every attempt should be made to allow the resident acting as Trauma Team Leader to manage the patient under the supervision of the attending physician.
    - Trauma Attending
        - The Trauma Service attending will be responsible for the trauma resuscitation, whenever physically available in the resuscitation bay.
        - Will guide the Trauma Team Leader, as indicated, through the trauma resuscitation. This may be done collaboratively with the ED Attending, as appropriate.
    - ED Attending
        - The ED Attending will be responsible for the trauma resuscitation in the absence of the Trauma Attending, or until their arrival in the resuscitation bay.
        - The ED Attending is ultimately responsible for airway management.
        - The ED Attending is ultimately responsible for patient care and disposition as a whole.
- Resident Physicians
    - Trauma Team Leader
        - Described above in III. Team Leadership
    - Airway
        - The Airway Resident will be an ED resident.
        - The Airway Resident will be responsible for performing an assessment of the “Airway” and “Breathing,” in line with the “ABCs” of trauma primary survey.
            - If an airway issue is identified, the resident will be responsible for intervening as appropriate.
        - Airway backup may be provided by the ED attending, anesthesia, or another team member as appropriate.
            - The decision of most appropriate intervention will be made by the ED Attending
        - If no airway intervention is required, this resident may perform the role of the Patient Right resident.
    - Patient’s Left
        - The Patient Left resident will be a Surgical resident.
        - The Patient Left resident will be responsible for performing any procedures requested by the Trauma Team Leader on the patient’s left side, including an ED Thoracotomy.
    - Patient’s Right

        - The Patient Right resident will be an Emergency Medicine resident.
        - The Patient Right resident will be responsible for performing a "Circulation" assessment, including a FAST exam.
        - The Patient Right resident will be responsible for performing any procedures requested by the Trauma Team Leader on the patient's right side.
        - Depending on the needs of the resuscitation and the availability of appropriate staffing, the "Patient Right" role may be vacant.
            - In this case, the role will be preferentially filled by the "Airway" resident, provided no emergent airway intervention is required.
            - If no EM resident is available to fill this role, it will be filled by an available member of the trauma surgery service.
- Nursing
    - Documentation
        - This nurse is responsible for all documentation.
        - Communication should be transparent with the Trauma Team Leader.
        - Documentation of the arrival time of the trauma attending is expected.
    - Medication
        - This nurse is responsible for administering all medications.
        - Verbal orders should only be taken from the Trauma Team Leader
            - Specifically, all airway meds should be discussed with the trauma team leader prior to administration.
    - Access
        - The access nurse is responsible for gaining and maintaining IV access
        - Access, including type and location, should be discussed with the Trauma Team Leader.
        - After two unsuccessful attempts at cannulation, based on patient condition further attempts should be performed by a physician, with large-bore central access preferred in unstable patients.
            - Ultrasound guided lines should be utilized time permitting in stable patients only
        - After access is obtained, this nurse will be responsible for setting up and maintaining the rapid transfuser.
            - If patient condition requires, this task may be designated to another appropriately trained member of the nursing staff.
    - Additional nurse staffing
        - As available and indicated by patient condition, additional nurse staffing may be recruited to assist in resuscitation. Potential roles include:
            - Access
            - Medication administration
            - Blood/fluid administration including via rapid transfusion
        - All requests for additional nursing staff should be communicated to the Trauma Team Leader to maintain situational awareness.
- Emergency Service Associates
    - Exposure / Monitor
        - Expose the patient's chest
        - Perform vital signs in the following order, unless instructed by the Trauma Team Leader
            - Obtain pulse oximetry

            - Obtain a blood pressure
            - Place the patient on the 3-lead cardiac monitor
                - There is no role of a 12-lead monitor or ECG unless specifically requested by the Trauma Team Leader
            - Obtain a temperature
        - All vital signs should be called out in real time to the Documentation Nurse and the Trauma Team Leader
        - If not already completed, begin exposing the lower extremities
        - Following the above, additional tasks should be completed as requested by the trauma team leader
    - Runner
        - This ESA is responsible for obtaining additional equipment/supplies not immediately available in the trauma bay.
        - The top priority should be blood and blood products
            - The ESA should specifically ask the Trauma Team Leader if these products are required.
    - Additional ESA staffing
        - Additional ESAs may be necessary and utilized as available
        - Tasks may include:
            - Facilitating exposure
            - Obtaining and setting up equipment
- Consultant and Ancillary Services
    - Other services are called to respond to the ED in cases of trauma, and are an essential part of the Trauma Team.
        - These services include, but are not limited to, anesthesiology, respiratory therapy, orthopedic surgery, radiology, and pharmacy.
    - All responding services are asked to remain outside of the trauma room until requested by the Trauma Team Leader.
    - No consulting service should initiate care of a patient without the explicit direction of the Trauma Team Leader.
    - Following completion of their specific assigned task, consulting services are asked to please exit the resuscitation bay.
- Observers
    - Observing trauma resuscitation is an essential element of education and participation in resuscitation is part of the educational mission of the Trauma Team.
        - However, maintaining span of control is an essential function of the Trauma Team Leader, and the number of persons present in the resuscitation bay may need to be limited to preserve the ability of the Trauma Team to perform essential functions.
    - All observers are asked to identify themselves on arrival to the resuscitation bay.
    - Observers will remain outside of the room until invited to enter by the Trauma Team Leader.
        - This is essential to ensure that the Trauma Team Leader maintains situational awareness.

VI. Patient Evaluation & Management

- Trauma Surgery Service
    - The surgical service will be responsible for performing all procedures on the left side of the patient
    - If the patient requires a procedure on the left side, and a surgery resident is unavailable, an ED resident may perform this procedure
- Emergency Department
    - The ED service will be responsible for performing procedures on the right side of the patient
    - If the patient requires a procedure on the right side, and an ED resident is unavailable, a surgery resident may perform this procedure
- Airway Management
    - The ED is responsible for airway management
    - The ED welcomes the support of our anesthesia colleagues, and any member of the Trauma Team is encouraged to call anesthesia in the event of an anticipated difficult airway
    - Final determination of who will perform airway intervention is the responsibility of the ED attending
- ED Thoracotomy
    - ED thoracotomy will be performed by an appropriately designated surgical resident.
    - If the surgical chief is unavailable, the procedure will be performed by the most senior/most appropriate team member, as directed by the Trauma Attending.
    - The Surgery Attending is responsible for overseeing this procedure.
        - In the absence of the Surgery Attending, the ED Attending will be responsible for supervising this procedure.
    - Involvement of ED residents is encouraged, provided that patient condition allows.
- Primary Survey
    - The primary survey will be coordinated by the Trauma Team Leader and will proceed in accordance with the principles of ATLS.
    - All findings will be called out to the team in real team, and acknowledged by the Trauma Team Leader.
    - The “Airway” and “Breathing” assessment will be performed by the Airway Resident.
        - If no airway intervention is required, the Airway Resident may swing to the Patient’s Right, as appropriate.
    - “Circulation” and “Disability” assessments, including GCS, will be performed by an available resident as directed by the Trauma Team Leader.
    - Exposure will be performed collaboratively by available members of the trauma team, only as instructed and coordinated by the Team Leader.
    - A FAST exam will be performed as an adjunct to the primary survey if instructed by the Trauma Team Leader.
    - Following the primary survey, the team will PAUSE to recap the patient’s current status, re-allocate resources as necessary, and confirm situational awareness.
- Secondary Survey
    - The Secondary Survey will be performed by a resident on the service of the Team Leader

        - Example: Trauma is running the resuscitation, trauma performs secondary survey
    - Following the secondary survey, the team will PAUSE to recap the patient's current status and re-allocate resources as necessary.
    - Adjuncts to the secondary survey, including plain films, etc. may then be performed.
- Orders
    - Orders may be placed by any member of the Trauma Team.
    - This role will be assigned by the Trauma Team Leader based on staff availability.
        - This role will ideally be assigned prior to patient arrival during the team huddle.
    - All orders should be vetted by the Trauma Team Leader.
    - Verbal Orders will only be honored if placed by the Trauma Team Leader.
    - There are no mandated "Routine Trauma Orders."
        - All orders should be considered and entered as indicated by patient condition.
        - Orders should be discussed with the Trauma Team Leader prior to entry.
        - An EPIC order set is available to facilitate order entry, although not all orders in this order set will be appropriate for every trauma patient.

VII. EM Resident Staffing

- The EM resident component of the Trauma Team will be composed of up to (3) EM residents for EM-run traumas: Team Leader, Airway, and Patient Right.
- If (3) residents are not available for EM-run traumas, EM will fill the Team Leader and Airway resident roles.
    - If no airway intervention is required, the Airway resident will move to the Patient Right role.
    - If the Airway Resident must perform an airway intervention and no other appropriate EM resident is available, it may be necessary for a surgery resident to perform a time-critical right sided intervention. This will only occur at the request of the Trauma Team Leader.
- EM resident roles will preferentially be filled by Alpha pod residents.
- There are occasional shifts during which additional residents will join the trauma team from Bravo or Charlie pod.
    - Bravo or Charlie trauma team members will be clearly identified on the schedule
    - On hearing an overhead “Code Alpha” or “Code Trauma” page, the resident will report to the resuscitation and check in with the Trauma Team Leader.
    - If no airway or other emergent intervention is required, this resident will immediately return to their scheduled pod.

VIII. Trauma Team Training

- Effective trauma resuscitation requires a coordinated effort by a multidisciplinary team.
- Accordingly, the departments of emergency medicine and surgery will collaborate on a joint education and training program, Trauma Team Training (TTT).
- The TTT program will consist of a short didactic followed by simulation scenarios.
- TTT participants will include:
    - ED Residents (1-2)
    - Surgery Residents (1)
    - Emergency Service Associates (1-2)
    - ED Nursing (3)
    - Physician Faculty (1)
    - Nursing Faculty (1)
- Each TTT session will begin with a faculty lead 45-minute didactic covering:
    - Principles of trauma resuscitation
    - Crew resource management and team dynamics
    - Trauma team roles and responsibilities
- The didactic will be followed by (3) simulated trauma resuscitations
    - Team member roles should rotate for each case
- Each case will be followed by an interdisciplinary group debrief led by physician and nurse faculty facilitators
- Simulation cases will be reviewed annually by members of ED and nursing leadership, and the TTT submitted to STRATUS in advance of the TTT cycle
- Dates for TTT will be selected each January and scheduled for April – June. The following people will be accountable for scheduling:

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|---|---|---|
| ED Residents | EM Chief Residents | EMChiefs@partners.org |
| MD Faculty | S. Goldberg | sagoldberg@bwh.harvard.edu |
| ED Nursing | D. Miller / T. Hughes | dmiller11@bwh.harvard.edu<br>thughes4@bwh.harvard.edu |
| ED ESAs | D. Miller / T. Hughes | dmiller11@bwh.harvard.edu<br>thughes4@bwh.harvard.edu |
| Nursing Faculty | D. Miller / M. McDonald | dmiller11@bwh.harvard.edu<br>mlmcdonald@bwh.harvard.edu |
| Surgery Residents | S. Broughton-Herd | sbroughtonherd@bwh.harvard.edu |

## IX. Core Trauma Team Member Functions

| Core Team Member | Function |
|---|---|
| Team Leader | • EM or Surgery Resident (Alternate cases)<br>• Lead trauma resuscitation in collaboration with attending physician |
| Airway Resident | • EM Resident<br>• Perform evaluation of "Airway" and "Breathing"<br>• Identify and manage any airway concerns |
| Patient Left Resident | • Surgery Resident<br>• Perform any procedural interventions on the patient's left side, including ED thoracotomy<br>• Perform any additional tasks requested by the Team Leader, including primary assessment |
| Patient Right Resident | • EM Resident. May be filled by the Airway Resident if no airway intervention is needed.<br>• Perform evaluation of "Circulation" including FAST exam under the direction of the Team Leader<br>• Perform any procedural interventions on the patient's right side<br>• Perform any additional tasks requested by the Team Leader, including primary assessment |
| Orders Resident | • Assigned by Trauma Team Leader<br>• Confirm all orders with Trauma Team Leader |
| Documentation Nurse | • Responsible for all documentation related to the trauma resuscitation |
| Medication Nurse | • Responsible for obtaining and administering all medications |
| Access Nurse | • Responsible for obtaining and maintaining IV access |
| Monitor & Vitals ESA | • Responsible for exposing the torso<br>• Obtains an initial set of patient vital signs and places the patient on a cardiac monitor<br>• Places patient on a portable cardiac monitor as requested by the Team Leader if transport out of the department is imminent |
| Runner ESA | • Obtains additional equipment, blood products, or supplies as directed by the Team Leader |

| | |
|---|---|
| Anesthesiology | • Provides airway backup for EM team<br>• Facilitate disposition to OR as needed |
| Respiratory Therapy | • Assist with airway management as requested<br>• Provide and maintain ventilatory support equipment as requested |
| ED Pharmacy | • Assist in obtaining medications as requested<br>• Assist with dose checking |
| Orthopedic Surgery & Neurosurgery | • Provide support and intervention specific to identified patient pathophysiology |
| Consultant Services | • Provide support and intervention specific to identified patient pathophysiology |
| Radiology | • Provide bedside radiographs as requested and ordered by the Trauma Team |
| Observers | • Observers are an important component of the trauma team and the academic mission of our Level 1 trauma center. However, in the interest of providing the highest level of patient care possible, all observers are expected to check in with the Trauma Team Leader, and may be limited based on patient acuity and resuscitation needs. |

Appendix A: Trauma Activation Criteria

# Trauma and Burn Team Activation Criteria

## CODE TRAUMA

- Any intubated patient with suspected traumatic injury coming from the scene
- Failed intubation in a trauma patient, including those with a rescue airway
- BP < 90 systolic **AT ANY TIME**
- BP <110 systolic **AT ANY TIME** if age ≥ 65yo
- Any patient actively receiving blood products to maintain systolic blood pressure > 90
- GCS ≤ 8
- **ANY** penetrating trauma to head, face, neck, or torso (chest, abdomen, back or buttocks)
- New quadriplegia, paraplegia, or hemiplegia (presumed SCI)
- Major amputation/ mangled extremity proximal to elbow or knee
- Burn > 20% TBSA or burn of lower % combined with other injury (page CODE BURN as well)

** ***The above criteria constitute ACS Minimum Criteria for full trauma team activation and must be activated as a CODE TRAUMA*****

If your patient does not meet the above criteria but you feel your patient warrants a full activation, please activate as a Code Trauma.

## CODE ALPHA

- Trauma transfer if ***time of injury < 12hrs ago*** meeting one or more of the following:
  - ◊ intubated
  - ◊ hemothorax or pneumothorax
  - ◊ multisystem trauma not meeting Code Trauma criteria
- GCS 9-13
- Extensive maxillofacial injury (Lefort II and III, unstable mandible)
- Major/unstable pelvic fracture
- Pregnant > 20 wk w/ high energy mechanism*
- Age ≥ 65yo with high energy mechanism*
- At the request of the EM Attending

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Note: If above criteria are identified *at any point*, activate as indicated

*High energy mechanisms include, but are not limited to:
- ◊ fall > 10feet
- ◊ high speed MVC
- ◊ pedestrian/bicyclist struck
- ◊ motorcycle collision
- ◊ team discretion

## TRAUMA CONSULT

- Trauma transfer w/multisystem injury ***with time of injury greater than 12hrs ago***
- Two (2) or more rib fractures
- Vertebral body fractures
- Isolated, traumatic head bleed with GCS of 14-15*
- At the request of the EM Attending

**For all other isolated head bleeds with GCS ≤ 13, utilize Code Trauma and Code Alpha criteria to determine appropriate level of activation*

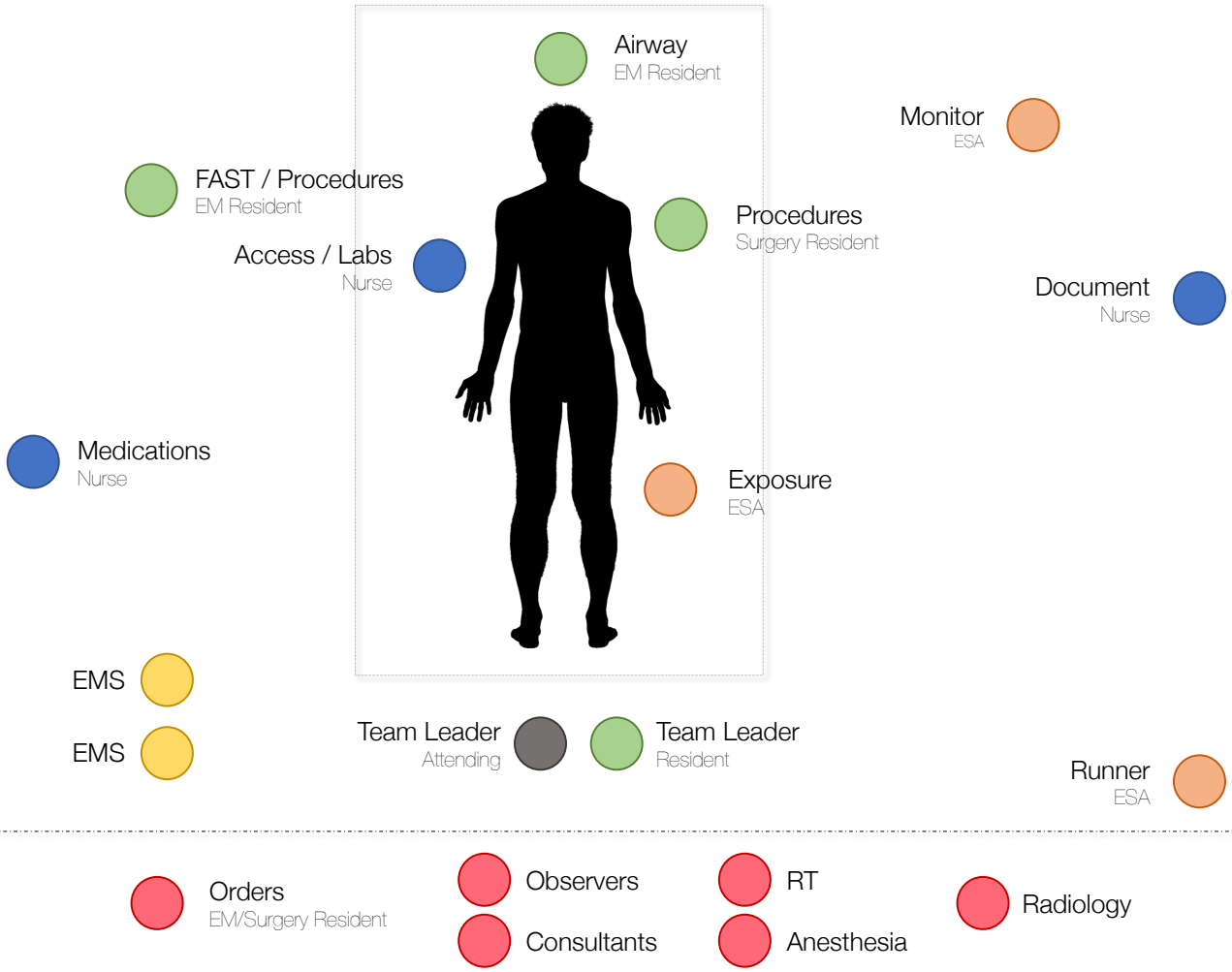
## CODE BURN

- > 20% TBSA 2nd or 3rd degree burns
- Inhalation injury
- High Voltage Electrical Injury (> 1000V)

BRIGHAM AND WOMEN'S HOSPITAL
Trauma and Burn Center

Updated: 05/2018

## Appendix B: Trauma Team Positions



## Appendix C: EM Resident Staffing Matrix

| | Sunday | | Monday | | Tuesday | | Wednesday | | Thursday | | Friday | | Saturday | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Resident 1 | Resident 2 | Resident 1 | Resident 2 | Resident 1 | Resident 2 | Resident 1 | Resident 2 | Resident 1 | Resident 2 | Resident 1 | Resident 2 | Resident 1 | Resident 2 |
| 7:00 AM | Alpha PG3 | Alpha PG2 | Alpha PG3 | Charlie OBS | Apha PG4 | Charlie PG3 | Alpha PG3 | Charlie OBS | Alpha PG3 | Charlie OBS | Alpha PG3 | Charlie OBS | Alpha PG3 | Alpha PG2 |
| 8:00 AM | | | | Bravo PG2 | | | | Bravo PG2 | | Bravo PG2 | | Bravo PG2 | | |
| 9:00 AM | | | | | | | | | | | | | | |
| 10:00 AM | | | | | | | | | | | | | | |
| 11:00 AM | | | | | | | | | | | | | | |
| 12:00 PM | | | | | | | | | | | | | | |
| 1:00 PM | | | | | | | | | | | | | | |
| 2:00 PM | | | | | | | | | | | | | | |
| 3:00 PM | | | | Charlie PG2 | | | | Charlie PG2 | | Charlie PG2 | | Charlie PG2 | | |
| 4:00 PM | | | | | | | | | | | | | | |
| 5:00 PM | | Charlie PG2 | | | | | | | | | | | | Charlie PG2 |
| 6:00 PM | | | | | | Charlie PG2 | | | | | | | | |
| 7:00 PM | | | | | | | | | | | | | | |
| 8:00 PM | | | | | | | | | | | | | | |
| 9:00 PM | | | | | | | | | | | | | | |
| 10:00 PM | | Alpha PG2 | | Alpha PG2 | Alpha PG3 | Alpha PG2 | | Alpha PG2 | | Alpha PG2 | | Alpha PG2 | | Alpha PG2 |
| 11:00 PM | | | | | | | | | | | | | | |
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