Emergency Medicine Research Volunteer (EMReV) Program Handbook

Adapted from the RQI Program Hennepin County Medical Centre

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Introduction

The Dalhousie Department of Emergency Medicine Research Volunteer (EMReV) program offers the opportunity to volunteer their time to support research in emergency medicine while increasing the recruitment of patients to clinical studies and registries through a more constant presence of research personnel in the Emergency Department (ED).

Under the supervision of the EMReV coordinator, volunteers will work in the ED for a minimum of 16 hours per month, assisting in the recruitment of patients for studies and the entry of data for studies and registries. EMReVs will not provide clinical care to patients but will learn about clinical research and about the processes of emergency care.

We at the ED at the Halifax Infirmary (Charles V. Keating Emergency and Trauma Centre) are very proud of what we do and welcome you to our team.

The ED is a very sensitive area, where patients are often at their most vulnerable, and the EMReV role requires sensitivity and compassion. The process of clinical research also requires accuracy and thoroughness of data collection, placing a heavy responsibility on the EMReV to ensure that personal patient data is used with respect and for the benefit of subsequent patients.

Contact Information

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Emergency Medicine Research Volunteer Program Website
https://dalemerg.medicine.dal.ca/research/**emergency-medici...er-emrev-program**/

Attendance

Attendance Policy Overview

To be counted as present for a shift, Emergency Medicine Research Volunteers (EMReV) must sign in on time and stay for the entire shift. There is a strict ten-minute grace period for signing in and out.

Two Strike Policy

If an EMReV is going to miss a shift, they must find a replacement for their shift within 24 hours of the shift start time. Additionally, they must notify the Research Coordinator of their absence BEFORE the shift starts. Failure to comply will incur a single "Strike". Upon receiving a second "Strike", the EMReV will be asked to leave the program.

It is possible that a shift will result in both a "Strike" being used for a given EMReV. However, these two policies operate separately – no consequences will result from either policy unless the respective amount of "Strikes" have been accrued.

Holidays

Attendance at regular shifts is not required on the following holidays:

New Year's Day	Labor Day
Good Friday	Thanksgiving Day
Easter Sunday	Remembrance Day
Canada Day	Christmas Day

Shifts attended on holidays will count as make-up, or extra, hours. However, holidays are generally fairly busy and all efforts are appreciated.

Shift Swaps

To find someone to cover your shift or find make-up shifts, please utilize the shift signup website.

Emergency Medicine Research Volunteer Conduct

Attire

EMReVs must wear your assigned green research scrub top. The green scrub top will be provided by the Emergency Medicine Research Volunteer Program; however, this must be returned to the Research Coordinator once you are finished with the program. You may wear plain long sleeve under your scrub top. EMReVs will need to move swiftly at times and will require a full range of motion. Clothing must not be restricting or prohibit the volunteer from preforming tasks as required. That noted; clothing that is too loose, requiring constant adjustment or repositioning pose a risk of obstructing movement. Clothing that is too loose should also be avoided for adjunct infection prevention.

Identification

EMReVs must be wearing the NSH issued identification at all times when in the Emergency Department.

Footwear

Volunteer's footwear should have closed toes and a non-skid soles. This will prevent the risk of exposure to fluids and protect against sharps injuries and slipping.

Laundering

Volunteers should arrive in laundered clothing. If possible, clothing worn at bedside should be washed and tumble dried in heat to eliminate both gram-positive and gram-negative bacteria.

Accessories

Volunteer's should avoid wearing accessories; ties, scarves, rings, bracelets, lanyards, etc. Wearing these items pose multiple risks working in the Emergency Department. Associated risks include becoming entangled, carrying pathogens, contaminating a sterile field, obstructing field of vision, limiting movement and serving as potential weapons for violent or agitated patients.

Communication

This is a professional experience and EMReVs are expected to behave professionally at all times. This means you should always show respect for patients, staff, students, and other volunteers.

When approaching staff, wait until their conversation is over, then introduce yourself. Most staff and emergency medicine residents are familiar with our studies, but transitional staff may need you to provide background. "Transitional staff" are generally residents doing a rotation before going to their residency of choice.

When interviewing patients, if the care provider comes into the room, ask if it is preferable for you to step out of the room or if you may continue interviewing the patient.

Please speak to nurses responsible for a patient to determine if it is appropriate to approach a patient for a study.

From a patient's perspective, research is a form of patient-provider interaction. Any interactions between EMReVs and patients help shape patient perceptions of NSHealth. Show respect for each patient with whom you interact. As a general rule, address anyone older than you by their surname unless they direct you to use their first name or a nickname. Remember that the ED has an open layout and that many of the research surveys EMReVs perform inquire about sensitive topics. If a patient has visitors in their room, ask them if they are comfortable with answering personal questions while others are present.

Keep your voices at a reasonable volume and be aware of the conversations that you are having, as the door is not soundproof. This involves both respecting the privacy of individuals that you are screening as well as being cognizant of the appropriateness of your conversation for the area.

Most patients are interested in helping with our studies, but don't be discouraged if they decline!

Responsibilities

The Acute Research Unit (ARU) should be used for screening, chart review, and data entry. Because we are conducting clinical research in an emergency department, we cannot predict when eligible subjects are likely to present. At times, you may have a lot of downtime. If you

are looking for something to do, consider calling or emailing the ED Research Office to see if the Research Manager would like assistance.

Your responsibilities as an EMReV include:

- Practicing *directed* screening.
- Understanding the background and consent process for all EMReV Program studies.
- Being prepared to obtain or assist with consent for any study, as applicable.
- Understanding data collection for all EMReV Program studies.
- Recruiting and enrolling patients.
- Learning to work independently.
- Collecting accurate, complete data.
- Continuously striving to improve your understanding of our studies.
- Following up with Lead EMReVs and coordinators to address questions and concerns.
- Notifying coordinators of eligible patients for screening studies.

Infection Control

Eat in the Staff Lounge; only covered drinks are allowed in the ARU. Remember to always use hand sanitizer when entering or exiting patient rooms. Study monitors should be wiped down between uses. Wear gloves and clean all surfaces with the antiseptic wipes. In terms of PPE, EMReVs are expected to wear a medical-grade surgical mask at all times while volunteering. When you are in the stabilization room during an intubation (which is considered an aerosol generating procedure) EMReVs are required wear their fit-tested N95 and eye protection (goggles or a face shield; regular goggles do not meet the requirement)

Remember that any direct physical contact with patients requires you to be wearing gloves.

Generally Helpful Pieces of Information

- If you bring water to special care, place it in a way so that it's out of sight and reach of patients
- If you decide to bring food, there's a refrigerator in the ARU. The breakroom also has a microwave
- **If you forget your badge, you will have to go back home to pick-up your ID.**
- Please be on time for your shifts. Plan ahead if there could be delays, such as weather, road construction or a stadium event. If you are going to be late for your shift, let both your team know and the coordinators well in advance
- Please take time during your shift to tidy up the office and disinfect after each shift
- Near the end of each shift take a moment to go through all copies to see if there needs to be more made to get through the next shift.

Confidentiality

Patient data must be respected and kept confidential at ***all*** times. Protected Health Information (PHI) includes names, medical record numbers (MRNs), chief complaints, and any detail of the case that could potentially allow someone to identify the patient. ***Never*** discuss identifying patient information on social media, over email, anywhere an outside observer could overhear, or with others who are not involved in the patient's case. Take care when sending emails to coordinators and texts to fellow EMReVs while coordinating responsibilities. Most email systems are not confidential and so should not include identifying patient information. When texting, it is permissible to refer to a room number or vitals but **do not use MRNs or patient names in texts**. To ask a question that requires disclosure of confidential information, call or follow-up with a coordinator in person. To correctly identify study participant, only review the elements of a patient's chart relevant to the study once they have consented to participate.

Remember that it is imperative to keep your conversations with one another confidential. This means that you must **limit your conversations about patient encounters to private spaces.**

A good rule of thumb to follow is to limit your discussions about any patients to the ARU. Anywhere else in the Emergency Department is a public space and therefore should not have any conversations about patient care occurring.

Copying

There should be at least one copy of each study form in the ARU at all times. If supplies are running low, please make more. Original versions of all study forms are kept in a single binder in the ARU and should be used for copying. Before making copies, check to make sure the original forms are not missing any pages and that it is the current version. A copy machine that you can use is located in POD 7. The general procedure that needs to be followed to make copies is below.

1. Place the document you would like to copy in the tray on top of the copier. Load the document by placing the top edge into the tray first, with the text (or first page) of the original document face up.
2. On the home screen, select "Copy."
3. Select "Sides." Under Sides, select "1-sided original, 2-sided output," or another option as appropriate. Select "Ok" to confirm and return to the previous screen.
4. Press the down arrow on the bottom of the screen to view more options.
5. Select "Original Size." Under Original Size, select 'Letter 8.5" x11".' Select "Ok" to confirm and return to the previous screen.
6. Enter the number of copies you would like to make by using the numeral pad on the right.
7. Press the "Start" button.

Letters of Recommendation

If you would like a personal reference letter, such as for a job, you are welcome to request one from the Research Manager, Megi Nallbani.

PPE Requirements

- All EMReVs must wear a medical grade surgical facemask and eye protection when seeing any patient.
- Do not enter rooms that have precaution signs on the doors without proper PPE
- EMReVs are not allowed into the rooms for designated for patients who are under suspicion of communicable diseases.
- EMReVs will be given one surgical mask, one set of goggles, and an N95 respirator. These are to stay in the EMReV office in the marked paper bag. A medical grade mask can be obtained in triage or a team center by asking a nurse.
- EMReVs are to bring a mask to wear while coming in and out of the hospital.
- Contact the Research Coordinator if you need a replacement of any PPE.

Informed Consent

Informed consent is the process of communicating important information used to help a patient decide if they would like to participate in a particular study. It is one of the most important steps of conducting ethical clinical research.

Consent Guidelines

The EMReV's role in the informed consent discussion depends on the study. In general, consent for clinical trials must be obtained by staff, but consent for surveys and low risk studies may be obtained by EMReVs. Consent must be obtained for all studies that require a major change in care for the patients that are involved.

EMReVs can assist with portions of the discussion, but the consent form should be signed by the staff member assisting with the consent process.

The consent process is specific to each study based on the Research Ethics Board (REB) application approval.

Elements of Informed Consent

Below is an overview of what we refer to in the EMReV program as the **SCΔRE?** protocol. This protocol is designed to help structure the information you give to patients about a study, but you may need to modify the order of the protocol to suit your conversational style and the details of the study. All of these elements of the protocol *must* be included in each informed consent discussion:

Study Question
- What is the purpose of the study?
- Why is the study important?
- Why are we asking each patient to participate?

Confidentiality
- Who will see their information?
- Why is it important that researchers and others (i.e. IRB, FDA) see this information?
- How will their personal data be kept confidential, if published?

Δ Changes in Care
- How would their care be different if they decide to participate in the study?

Risks
- What are the risks of participating?

- What are the risks associated with particular study treatments?

Expectations

- What can the patient expect if they participate?
- How frequent are assessments?
- Can they expect a follow-up call?
- Will there be extra people in the room during a procedure?
- Let the patient know that their participation is voluntary and that they are free to withdraw at any time

? Questions

- Invite the patient to ask questions and address all questions the patient raises.
- Direct all medical questions to a provider.
- Ask the patient directed questions to assess their ability to provide *informed*, *voluntary* consent, such as "*Can you tell me what the main point of the study is*?"

If you would like to use a different approach, reviewing the consent form with the patient, section by section, is another great way to ensure that you have covered the essential elements of the study.
Regardless of which technique you use, you are directly held responsible for conveying all of the information contained in the consent form to the patient.

Common Exclusion Criteria

Some populations have extra protections in research and are nearly always excluded. Patients are not eligible for almost all of our studies if they fall into the following protected populations:

- Incarcerated
- Refuse to participate

Patients are not eligible for ***most*** of our studies if they:

- Are pregnant
- Are under the influence of drugs or alcohol (any degree)
- Have been sexually assaulted
- Have attempted suicide or have suicidal ideation
- Are physically restrained
- Do not speak and read English
- Are critically ill
- Are vulnerable adults/children (e.g. have a legal guardian, live in a group home; are in the foster system or wards of the state)

The protected populations are grouped as they are above for ease of remembering who may participate in our studies that require the EMReV to obtain informed consent.

However, some of our studies are performed under a "Waiver from Informed Consent" or under an "Exception from Informed Consent." In these cases, it is best to double check whether or not protected populations should be excluded from the trial, as observational studies are often open to enrolling all patients that qualify for the study.

Consent Variations

Exception from Informed Consent (EFIC)

According to the FDA, an exception to the consenting process previously discussed can be obtained with "research activities involving human subjects who are in need of emergency medical intervention but who cannot give informed consent because of their life-threatening medical condition, and who do not have a legally authorized person to represent them."[1]

Waived Consent

Waived consent is used for observational research. We occasionally conduct research on patients in a population that, by definition, are unable to provide informed consent. In these cases, if the patient is unable to provide informed consent during the course of the study, the patient is not excluded. These patients are notified of enrollment by being provided with an *Information Sheet*.

Verbal Consent or Abbreviated Written Consent

In some low-risk studies in which no or limited identifying data is collected, research may be conducted with verbal or abbreviated written consent. This typically includes studies where patient feedback is important, but in which patients are not the subjects or no identifying information is recorded.

[1]Exception from Informed Consent for Studies Conducted in Emergency Settings: Regulatory Language and Excerpts from Preamble-Information Sheet. U.S. Food and Drug Administration. Website. http://www.fda.gov/RegulatoryInformation/Guidances/ucm126482.htm. Accessed May 25, 2013.

Screening

Screening is a term used to describe the process of searching for and identifying eligible patients for a particular study. To effectively identify and enroll patients, you will need to thoroughly understand the studies being conducted.

Tips

- Even when the department is slow, *stay engaged!* If you do, you are much more likely to identify patients.
- At the beginning of your shift review the studies that are going on including the inclusion and exclusion criteria for each study.
- Look through the list on EDIS for presenting symptoms that correspond with potential study patients.
- Remind the clinicians in the area that you are looking for a particular subset of patients, and let them know how to get ahold of you if they encounter one.
- Recheck EDIS every hour or so.

Once a potential study participant is determined

- Check which language(s) the patient speaks and whether or not they have accepted an interpreter.
- Consider whether the patient is intoxicated (about 15% of ED patients are).
- Review other pertinent information (such as mental and social history, other medical conditions, or medications) that may reasonably exclude the patient from participating with their nurse.
- Wait to speak with the provider until they have completed the physical exam.
- Remember that the clinical picture is evolving, and that successfully enrolling a patient often requires thinking ahead and following up with staff more than once.
    - Sometimes a patient who doesn't qualify on arrival will be eligible later.
    - Sometimes providers change their treatment plan depending on specific aspects of the patient's case.
- Pay attention to how experienced returning EMReVs identify likely patients and the questions they ask when following up with staff.
- Utilize the entire clinical picture in order to evaluate a given patients' likelihood for being enrolled in a study. For example, seeing a high WBC count in a patient's labs means that they are battling some kind of physical stress, such as infection.

Screening Logs and Subject Lists

Screening logs are used to summarize basic information, often for study abstracts, such as:

- The number of people who present to the ED with the condition being studied
- The number of patients who are eligible for a study but are not enrolled
- Common reasons patients who present with the condition being studied are excluded from research

Subject lists are used to keep track of all patients that are enrolled in a study. Every patient who is evaluated for enrollment in a study should be documented in the screening log and patients that are enrolled should be entered into the subject list. If multiple exclusion criteria apply to a patient, make sure to document all of them in the screening log. Identifying information should not be entered into a screening log; identifying information about patients that are enrolled in studies should be entered into the subject list.

Data Integrity

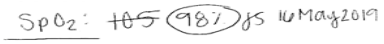
Ensuring that the data we collect is accurate and complete is an essential part of assuring that we correctly answer the study's scientific questions, as well as paying respect to the patients who have contributed to our research.

Please make sure that you are recording data in a way that others will be able to read and decipher later on. Documentation should be made in **black ink** and should be clear and contemporaneous. Do not use white out or highlighter. If a question has been left blank or a response has been crossed out, the reason is difficult to infer. If there is an unusual event or data point, make a clear and detailed note to the coordinator. If data was not collected for a question on a DCF because it was not available, simple write "NA" to make it clear why the information is not available.

Making Corrections

When making corrections:

1. Draw a single line through the incorrect information, Ex:
2. Circle the correct information
3. Initial and date the correction



Timing

Before you begin collecting data, make sure you know whether data should be collected in real time.

Recording Administered Medications

Record the exact dose, unit, route (IM, IV, PO), and generic name of all administered medications. When looking up medication information in EDIS, access.

Data Entry

- Enter data into REDCap immediately! (If applicable for particular study.)
- EMReVs should enter all patients screened in or screened out for a particular project
    - Ex: All patients who are intubated should be entered into the IQ screening log
    - Ex: A patient has a presumed diagnosis of asthma and would qualify for the study, but they're over the age limit. Or a patient received a nebulizer treatment and is in the proper age range, but has a past history of COPD and consequently can't participate in the study

    - Entering a patient is important even when they decline to participate in a study
- If a value is unavailable, leave line blank unless another designation is requested in REDCap. (If applicable for particular study.)
- Data integrity
    - BE HONEST
    - Do not make up values
    - It is okay to make mistakes as long as you correct them properly and learn from the mistake
    - If a data reading was not available at the time of study administration, notate that on the DCF with "NA" and leave blank in GREENCap. (If applicable for particular study.)
    - Please do not fill out the comments on GREENCap! For any and all comments, please just place sticky notes/notes to coordinator. (If applicable for particular study.)

Handing Off Ongoing Studies

Ongoing studies need to be handed off to a *specific* incoming EMReV. Lead EMReVs are responsible for communicating a general summary of ongoing studies to the Lead EMReV on the next shift, but all EMReVs should coordinate directly with an incoming EMReV to communicate the details of ongoing studies they are working on.

Reviewing Completed Forms

Review completed study forms before placing them in the "Completed Research" bin to confirm that you have completed the following steps.

- Review the Informed Consent Form (ICF) to make sure that the
    - Subject has signed and printed their name, and dated the form
    - Person obtaining consent has signed their name and dated the form
    - Patient sticker has been affixed to the first page.
- Review the Documentation of Informed Consent section to make sure that
    - A narrative of the consent conversation is recorded
    - The patient has received a copy of the signed consent form or an original information sheet
    - The acknowledgement that a copy of the consent form has been given to the subject has been checked and initialed
- Review the Screening & Eligibility Form to make sure that the
    - Inclusion & Exclusion Criteria are met and documentation of eligibility is complete

    - Date and time of enrollment (aka the date and time of consent) is recorded.
- Review the Data Collection Form to make sure that
    - All headings are complete
    - The subject number is written on each page
    - Your full name (first & last) is written where indicated
    - Corrections have been made by drawing a single line through the incorrect information, circling the correct information, and initialing and dating the correction
    - All entries have been completed in black ink
    - All fields have been answered. You are expected to keep aware of subject disposition and transfers of care so that assessments are not missed.
- Review the Screening Log to make sure that all information is complete.
- Review the Subject List to make sure that all information is complete.
- Review the completed packet to make sure the original ICF is stapled to the Data Collection Form and that a copy (for later scanning into the subject's medical record) is clipped to the packet.

Additionally, Lead EMReVs will review every data form completed during their shift during the training period.

Medical and Research Abbreviations

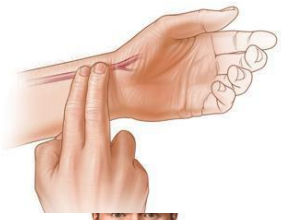
2˚ or 2/2 (secondary to) - due to
Abd - Abdominal
ABG - Arterial blood gas
Abx - Antibiotics
AHF - Acute Heart Failure
AKI - Acute kidney injury
AMA - Against medical advice
AMS - Altered mental status
A/O x 3(or 4) - Alert and oriented (to person, place, time, situation)
ARDS - Acute respiratory distress syndrome
ASA - Acetylsalicylic acid (Aspirin)
BIBA - Brought in by ambulance
b.i.d. - Twice per day (from Latin, *bis in die*)
BKA - Below the knee amputation
BMP - Basic metabolic panel (test)
BS - Blood sugar (test)
BUN - Blood urea nitrogen (test)
CAD - Coronary artery disease
CBC - Complete blood count (test)
CC - Chief complaint
cc - Cubic centimeter; 1cc = 1mL
CKD - Chronic kidney disease
CHF - Congestive heart failure
CMP - Comprehensive metabolic panel (test)
C/O - Complaint of
COPD - Chronic obstructive pulmonary disease
COWS – Clinical Opiate Withdrawal Score
CTAB - Clear to auscultation bilaterally (of lung sounds)
CP - Chest pain
CPAP - Continuous positive airway pressure
CVA - Cerebrovascular accident (aka stroke)
CVC - Central venous catheter (aka central line)
CVP - Central venous pressure
CXR - Chest X-Ray
DT - Delirium tremens
Dx - Diagnosis
DDx - Differential diagnosis
DKA - Diabetic ketoacidosis
DVT - Deep vein thrombosis
DM - Diabetes mellitus
DNR/DNI - Do not resuscitate/intubate
EMR – Electronic medical record
EOMI - Extraocular movements intact
EtOH - Ethanol
ETT - Endotracheal tube
ESRF - End stage renal failure
FAST - Focused assessment with sonography for trauma
f/u - Follow-up
Fx - Fracture
GC - Gonorrhea/Chlamydia
GCS - Glasgow Coma Scale
GERD - Gastroesophageal reflux disease
GSW - Gunshot wound
HA - Headache
HEENT - Head, ears, eyes, nose & throat
Hx - History
HCA - Healthcare assistant
h/o - history of
HTN - Hypertension
HUC - Health unit coordinator
I & D - Incision and drainage
ICF - Informed Consent Form
ICP - Intracranial pressure
ILI - Influenza-like illness
IM - Intramuscular
IRB - Institutional review board
IV - Intravenous
IVP - Intravenous push
LBP - Low back pain
LMP - Last menstrual period
LOC - Loss of consciousness
LP - Lumbar puncture (aka spinal tap)
LE - Lower extremity (as in **RLE**, or Right lower extremity)
mcg - Microgram
MI - Myocardial infarction (heart attack)

MDRO - Multi Drug Resistant Organism
MICU - Medical Intensive Care Unit (aka MI)
MMRF – Minneapolis Medical Research Foundation
MRSA - Methicillin-resistant *Staphylococcus aureus*
MVC/MVA – Motor vehicle crash/accident
NAD - No apparent distress (or less frequently, no abnormality detected)
NICU - Neonatal intensive care unit
NS - Normal saline solution
NT/ND - Non-tender/non-distended
NPO - Nothing by mouth (from Latin, *nil per os*)
N/V/D - Nausea/vomiting/diarrhea
OD - Overdose
PA - Physician's assistant
PE - Pulmonary embolism (or less frequently, pulmonary edema)
PERRLA - Pupils equal, round, reactive to light & accommodation
PHI - Protected Heath Information
PI – Principal investigator
PID - Pelvic inflammatory disease
PMH - Primary (past) medical history
PNA - Pneumonia
PO - By mouth (from Latin, *per os*)
PRN - As needed (from Latin, *pro re nata*)
PT - Prothrombin time (test)
PTA - Prior to admission
PVD - Peripheral vascular disease
q#h - every # hours (as in **q4h**, every four hours)
q.d. - Once per day (from Latin, *quaque die*)
q.a.d. - Every other day (from Latin, *quaque altera die*)
q.i.d. - Four times per day (from Latin, *quater in die*)
ROS - Review of symptoms
RRR w/o MRG - Regular rate & rhythm without murmurs, rubs or gallops
- Rapid sequence induction
RT - Respiratory therapist
Rx - Prescription
SAH - Subarachnoid hemorrhage
SDH - Subdural hematoma
SICU - Surgical intensive care unit (aka SI)
SIRS - Systemic inflammatory response syndrome
SOB - Shortness of breath
SOC - Standard of care (aka routine care, as opposed to study care)
STD/STI - Sexually transmitted disease/infection
STN - Surgery, trauma, neuro
Succs - Succinylcholine (paralytic agent)
Sx - Symptoms
Sz - Seizure
TA - Toothache
TB - Tuberculosis
TBI - Traumatic brain injury
TIA - Transient ischemic attack
t.i.d. - Three times per day (from Latin, *ter in die*)
TTP - Tender to palpation (less frequently, Thrombotic thrombocytopenic purpura)
Tx - Treatment
U/A - Urinalysis
UE - Upper extremity (as in **LUE**, or left upper extremity)
URI - Upper respiratory infection
UTI - Urinary tract infection
US - Ultrasound
VRE - Vancomycin Resistant Enteroccocus
VSS - Vital signs stable
VBG - Venous blood gas
WNL - Within normal limits

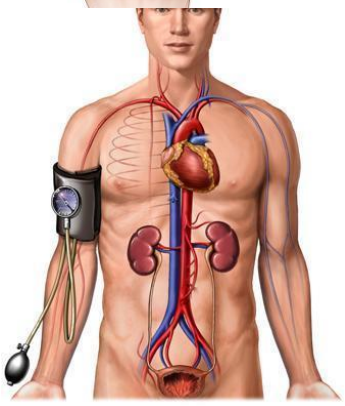
Vital Signs

How to Take Vital Signs

- *Heart Rate*
  - Find the patient's pulse (on the thumb side of their forearm).
  - Count for 15 seconds then multiply by 4 to obtain beats/minute.



- *Blood pressure*
  - Put the cuff on the patient over the brachial artery. Be aware to place the correct side on against the patient's skin (marked on the cuff).
  - Press the button that says, "start/stop" on the vitals monitor.



- *Respiratory rate*
  - The best way to take respiratory rate is to continue timing for another 15 seconds after you are finished taking the heart rate while acting like you are still taking the heart rate (if the patient knows that you are looking at their breathing, they will subconsciously change the rate).
  - Time for another 15 seconds and count the number of breaths the patient takes.
  - Multiply by 4 to obtain breaths/minute.

- *SpO_2*
  - Place probe on patient's finger.
  - Wait until the number appears on the vitals monitor.

- *rSO2*
  - Wipe the patient's forehead with an alcohol pad to ensure sanitation.
  - Place the probe on the patient's forehead, preferably on the left side.
  - Wait until the cerebral oximetry monitor displays the value.

[2]http://images.lifescript.com/images/ebsco/images/EM00001.jpg
http://img.webmd.com/dtmcms/live/webmd/consumer_assets/site_images/media/medical/hw/hwkb17_071.jpg

Key Features of the Vitals Monitor

Please note that different monitors will present vital sign information in different orders. It is a good idea to understand typical ranges and wave forms for each value so that you can confirm you are recording the correct information.

- Top right hand corner number in green – heart rate (HR)
    - HR is the number of times the heart beats in one minute
    - Normal range is 60-100 beats per minute (bpm)
- Blue number second from the top – oxygen saturation (SpO2)
    - SpO2 is the amount of oxygen in the blood
    - Normal range is 98-100
- White number third from the top – respiratory rate (RR)
    - RR is the number of breaths per minute
    - Normal range is 14-18
- Purple number in the bottom left-hand corner – blood pressure (top number is systolic, bottom number is diastolic)
    - Blood pressure is pressure exerted by circulating blood on the blood vessels
    - Normal range is 90/60 to 120/80
    - The purple number in parentheses, just to right of the blood pressure, is the Mean Arterial Pressure (MAR)

Shift Diary Prompts

Shift diaries! Take the time to write about your day! They're an excellent way to reflect on your shift, and to process what you learned. In addition, if you ask for a letter of recommendation in the future, your recommender will likely use your shift diaries to gain a greater understanding of who you are and what your time was like here at NSHealth. Here's a general outline of what a shift diary may look like!

- Overall, write about what you did! Did you do patient follow-ups, screen, speak with a provider?
- Did you observe a patient-provider interaction that made an impact on you? Why did the interaction make an impact on you?
- Did you encounter a challenging situation? How did you handle the challenge?
- Was there a patient story that touched you, either because their story was sad, joyful, or somewhere in between?
- Did you see something (such as good leadership, poor/good communication) that you'd like to incorporate into your future career as a healthcare provider?
- Based upon your shift, or a specific encounter, how do you think you can improve as a EMRV? What steps would you like to take to improve towards your goal?
- What is something you did well today and you're proud of?
- What are you looking forward to in the shifts to come?