VAMC SICU SERVICE

RESPONSIBILITIES of the SICU RESIDENT

The main purpose of having a resident specifically assigned to the SICU in addition to the training experience is to have around the clock physician availability for life and death emergencies in this the most unstable and sickest patient population.
The second most important function is to be available for less critical or even more routine problems, when the primary team is tied up in the operating room, or unavailable for any other reason. This way the SICU operation can run smoothly, and optimal utilization of this very limited resource is possible. A typical example would be clarify or correct existing orders from the primary team, or write transfer orders to expedite transfers of stable patients, after permission for this has been given by the primary team.
This may also include clarifying management strategies to any member of the ICU care team (nursing, RT, PT, nutrition, pharmacy, consultants etc) and assisting with family support.
To be able to effectively achieve this, the following guidelines are expected to be followed:

1) **Availability:**
Physical presence in the unit is preferred. Identify yourself as the'' resident du jour'' at least to the charge nurse. Assure your pager # is known.
When leaving the unit neither physical distance nor outside activity should preclude immediate return for emergencies, e.g. eating in the university hospital cafeteria or assist in surgery is discouraged.
Before leaving the unit for an anticipated longer period of time, assure there are no impending problems, and notify the charge nurse when leaving...
Personal sign out at shift change is mandatory. This should occur with a **sign out list** with the following data: Pt's name and MR#, primary service attending and resident(s), pertinent dx, nature of recent OR intervention(s), acute problems and concerns, pertinent pager #s

2) **Patient Care Responsibility:**
The SICU service primarily runs as a consult service, and is an open unit with an open admission policy.
All patients from all services are the ICU resident's responsibility for the entire duration of their ICU stay.
Cardio thoracic surgery and liver transplant surgery have assumed the primary responsibility for the entire day to day care of their patients. For all other services the SICU resident is an integral part of the day to day patient care.
This requires presence for rounds by the primary team. Constant communication with the primary team and active involvement with management decisions is absolutely necessary.
Co-management occurs with services who routinely admit their patients to the ICU:
General Surgery
Vascular surgery
Neurosurgery
For services for which critical care is not routinely part of their care and therefore not necessarily their expertise, **The SICU team assumes primary responsibility for their patients:**
Orthopedic surgery
Plastic surgery
ENT

Urology
For these patients orders and care plans are formulated by the SICU team upon admission of these patients to the SICU.
For cardiothoracic and liver transplant patients intensity of involvement is at the direction of those primary teams.
But it is of utmost importance to be familiar with these patients at all times, in order to be able to effectively assist with emergencies. For these patients as well, communication with the primary team is essential.
A detailed admission note and daily progress note is expected on each patient except for the CT and Liver transplant service. Admission orders are screened for completeness and updated as necessary.
Daily organized rounds should be conducted with the attending on service, preferentially in the morning. Prior preparation and assembly of all new pertinent data is essential. **Please document in your daily note which SICU attending daily management was discussed with.**

As of July 2002 limited resident work hours were established. This has made it necessary that the SICU resident resumes responsibility for Liver Transplant Patients when the Liver Team is not available, especially after hours and when tied up in the operating room. It is expected that the liver team residents will give sign out to the SICU resident before they go home or during the day as needed. Nursing will always attempt to contact the liver team first. Should this fail or should they be unavailable, the SICU resident will respond and deal with the problem at hand. The SICU attending on call/on service will always be available to assist.

3) **Role of the SICU Attending:**
A surgical attending with added credentialing in Critical Care is assigned to the SICU for a one week block. They will make daily rounds and assist mainly with critical care related patient management problems. This includes assisting with bedside procedures, and it is advisable to ask about their individual preferred level of presence.
The SICU attending is also the primary resource in emergencies, especially if the primary team is not readily available. **Unexpected admissions to the SICU, especially if unstable, requires notification of the SICU attending, as soon as a reasonable report about the patient's condition can be given. This does not mean wait until the patient is stabilized or completely evaluated**. It is then up to the attending to determine whether his/her presence is needed.
The SICU attending will also be involved with triage decisions for optimal bed utilization.

In summary the SICU resident has the very essential task of being the always available link who connects all critical care team members and all aspects of critical care management.

Their potentially invaluable contribution will not go unnoticed or unappreciated.

4) **Work hours:**
Dayshift :~ 6:30 am to enable the off going resident to sign out and complete responsibilities on own service
Nightshift :~6:00 pm to enable the on-coming night resident to complete OR+clinic responsibilities
(on call) The specific on call responsibilities of the **all hill coverage** are outlined by OHSU Dept of Surgery
The resident on the SICU service is expected to go home after his /her night on call after all patients have been seen, notes are written, the list is updated and left with the charge nurse. There should be a final short sign out call to the attending on service covering the pertinent data.

On weekends the resident is expected to come in for rounds with the GS team and after patients are seen, orders updated, notes are written, and sign out accomplished with the oncoming on call resident complete with the updated list, the resident may go home for the rest of the day. Prior rounding/updating/sign out with the on duty attending has to be arranged individually and should include all patients covered primarily by the SICU team.
The weekly 24hour day off should be arranged every week with the on duty attending.

5) **Meetings:**

If the acuity in the unit allows the following regularly scheduled conferences should be attended:
  Trauma conference (OHSU)
  M+M (OHSU)
  Residents' lecture series (OHSU)
  Grand Rounds (OHSU)
  Residents– Research Conference (OHSU)
  VA attending rounds and case conference
  VA Chiefs– conference
  CCM lecture series (OHSU)

6) **VASICU specific teaching activities**
At the beginning of the rotation the resident will receive the Catalogue of Knowledge and Procedural Skills expectations. Planned didactic sessions with the on duty attending should address each individual resident's needs and should be arranged at least once weekly and as intensity of the service allows

Updated JAN 2005

VA SICU Rotation

CURRICULUM

KNOWLEDGE and SKILLS CATALOGUE

This rotation has one important goal:
Convey competence in the fundamental principals of critical care:

1. Multidisciplinary Team Concept impact on outcome
2. Diagnosis and Therapy are carried out simultaneously
3. Timeliness and expedience impact on outcome
4. Evidence based standardized protocols impact on outcome

CLINICAL KNOWLEDGE
This is based on the assumption that the resident is proficient in the principles of ACLS and ATLS at the beginning of the rotation

Respiratory

Airway management:
- Problem recognition
- Management options

Respiratory Failure
- acute---chronic

Etiology: central (CNS)
- pulmonary: Pneumonia, PE, COPD, pulmonary edema, ARDS, VALI, Aspiration
- workload: metabolic, nutritional

Pleural collections

Basic interpretation of CXR

Indications for and interpretation of blood gases and pulse oximetry

Basic ventilator management, weaning, extubation, lung protective strategies

Cardiovascular

Hemodynamic physiology, adaptation to critical illness
Concept of supply and demand
Concepts of pressures vs. volume vs. perfusion
Concept of goal directed therapy

The postop heart

CHF vs. postop volume overload

Myocardial strain, insult, ischemia, chest pain

Arrhythmias

Hypertension

Vasoactive and inotropic interventions incl assist devices

The cardio- respiratory connection

Shock: the 4 types (etiology), organs at risk

Use, misuse and abuse of the Swann Ganz catheter

Interpretation of EKG and cardiac monitor tracings

The vasculopath
The postop vascular patient
Acute and chronic peripheral hypoperfusion
Extremity compartment syndrome and rhabdomyolysis

CNS
Comprehensive neurologic exam in the awake vs. unresponsive patient
Mental status

- Adaptation in critical illness
- Unresponsiveness vs. coma
- ICP elevation
- Seizure activity

- Brain death

SCI
Neuropathy

The postop craniotomy patient
The postop spine patient

Agitation and withdrawal

Sedation, analgesia and pharmacological muscular paralysis

- In general
- Procedural

The cardiac connection in CNS insults

The role of hyperventilation, mannitol, ventriculostomy, triple H therapy,

GI

The acute abdomen/ abdominal catastrophe
The postop abdomen
The open abdomen

Gut malfunction: ileus, obstruction, low flow, diarrhea, leak/perforation

GI bleed
Stress ulcer prophylaxis

The abdomen as unrecognized source of critical illness

The abdominal compartment syndrome role of bladder pressure
The concept of damage control

Hepatic failure
The liver transplant patient

Pancreatitis
Biliary sepsis

Interpretation of the abdominal plain film and CT scan

Infection

Bacteremia, sepsis, septic shock, SIRS

Antibiotic selection for treatment
for prophylaxis
Immunomodulators

The immunocompromised patient

Purulent collections: abdomen, chest, cranium

Soft tissue infections

Nosocomia: Pneumonia
Lines
Foley
Wounds
Operative fields
C.difficile

Universal precautions, sterile conduct
Resistant organisms and forms of isolation

Fever work up when and how,
gram stain and culture result interpretation

Hematology

On going blood loss

Volume resuscitation what when: the concept of goal directed therapy
The role and implications of transfusion in the critically ill

The critically ill on chronic anticoagulation

Anticoagulation: Prophylaxis
Treatment
Heparin Coumadin Thrombin Inhibitors
Antiplatelet agents
Adjustments in the perioperative period

Basic inborn coagulation problems
Drugs and drug interactions affecting coagulation

Metabolic and Endocrine

Volume Status
Assessment: BP, MAP,CVP, wedge, parameters of adequate perfusion
Concept of goal directed therapy
The role of Na, BUN/Cr, BE, lactate

Electrolytes Na, K, Cl, divalences

Acid-Base

Glu control and its impact on outcome
DKA NKHGC

Thyroid function

Adrenal function, adaptation to critical illness, the lack thereof, its impact on outcome

DI

Renal failure

Commonly used medications in the ICU and the kidney function

Nutrition in the ICU
What, how , when
Assessment of nutritional status prealbumin, 24h UUN, indir.calorimetry
Immune status and nutrition
Refeeding syndrome

Administrative

Knowledge and independent user capability of
VISTA, CPRS

Maintenance of current computer account (Vhapor)

Knowledge of the multidisciplinary team approach
Knowledge of manpower resources
Knowledge of nursing and physician hierarchy
Details see in the Orientation Guide

Ethics

Appreciation of and respect for the veterans
Tolerance, recognition and understanding for their special individual needs
as veterans and as patients who travel long distances for their care

Patient autonomy and self determination
Informed consent

Brain death determination

Limiting or withdrawal of support
Comfort care

The concept of Multidisc. Meetings in the ICU

The ethics committee
The patient advocate

Reading:

Marino 2nd edition
Civetta 3rd edition as reference
Critical Care Clinics of North America as reference

Medline as web based resource
MD Consult as web based resource

BENCHMARK PROCEDURES in the ICU

Knowledge of indications and preparation for each planned bedside procedure within the existing system, utilizing the resources of the entire team, including informed consent, appropriate sedation and analgesia and complete chart documentation.
Appreciation for sterile conduct.
Appreciation of learner status and own limitations, and request for help when indicted.

Competent and independent performance of:

Central line placement incl.dialysis access
Floating of Swann Ganz Catheter
Arterial line insertion

Paracentesis and diagnostic peritoneal lavage
Thoracocentesis and chest tube insertion

Pericardiocentesis
Cardioversion and defibrillation

Procedural knowledge and supervised performance of:

Endotracheal intubation with the rapid sequence method
Assistance with percutaneous tracheostomy placement

VA SICU SERVICE

Rotation Objectives and Goals

Domain	Objective	Teaching Method	Evaluation Tool
Medical Knowledge	**Understand the concept of critical illness in the context of operative interventions, and pathology requiring or potentially requiring operative intervention**	Systematic discussion of each admission and development of management = diagnosis + treatment plan	Faculty assessment
Patient Care	Recognize the critically ill patient Understand the concepts of efficient + complete evaluation Execute treatment according to established priorities + established scientific evidence Respect patient autonomy Counsel + educate patient + family Refrain from imposing own value + belief system onto patient/family Perform bedside procedures competently incl. informed consent, adequate sedation and proper complete documentation and incl. recognizing the need for adequate supervision	Teaching rounds, multidisciplinary interactive care conferences Direct attending supervision	360° evaluation (attendings, nurses, patients)
Practice –Based Learning Improvement	Recognize their areas of weakness + develop a plan for improvement Recognize their limitations + ask for help when appropriate Ability to apply current literature evidence in individual patient care, incl. use of online information technology Analyze practice experience both positive + negative + apply lessons learnt Involve students+ all care givers in learning process and strategy development	Multidisciplinary teaching rounds Interactive "bull sessions"	360° evaluations by multidisciplinary team

Interpersonal + Communication Skills	Ability to develop respect + trust by patient/family + the care team Convey reliable availability Communicate orders + management plans timely, cohesively + according to professional courtesy, Use online chart documentation comprehensively Respect the legal documentation character of record keeping	Faculty leadership by example	Evaluation by nurses + ward clerks Supervision by faculty
Professionalism	Demonstrate responsibility for own performance, show compassion + respect for patient's condition, beliefs, cultural, ethnic + educational background, Appreciate care team's contributions, their educational needs, Accept criticism, Work within the multidisciplinary team structure Demonstrate dignity Demonstrate honesty	Faculty lead by example, individual counseling in private, Continuous feed back	360° evaluation from entire team incl. patients and medical students
Systems-Based Practice	Achieve integration into the existing system Work within existing policies nonjudgementally Embrace evidence based policies + pathways View role primarily as a learner, not a system changer, Stream line management to effectiveness + cost control Utilize+ respect all resources	Orientation guide to SICU service, general orientation to VA system, CPRS + VISTA	360° evaluation form from faculty, nurses, ward clerks, data administrators, QI officers