ZSFG JOINT CONFERENCE COMMITTEE MEETING

October 25, 2022

MEDICAL STAFF Report

Contents:

ZSFG CHIEF OF STAFF REPORT
Presented to the JCC-ZSFG on October 25, 2022
October 2022 MEC Meeting

CLINICAL SERVICE REPORT:

Neurosurgery Service – Geoffrey Manley, MD, Chief

The highlights of the report are as follows:

1. Goals and Scope of the Clinical Service
   a. Goals – They are as follows: (1) provide 24/7 neurosurgical care to patients at ZSFG/SFHN, (2) deliver the most advanced care for patients with brain and spinal cord injury, (3) translate basic neuroscience into clinical practice, (4) train the next generation of neurotrauma clinicians and scientists, and (5) transform neurotrauma care worldwide.
   b. Scope of Clinical Services- These include inpatient services (traumatic brain, spine, and other neurosurgical emergencies; neurocritical care; and elective/consult) and 24/7/365 services (attending rounds daily and sees all patients; attending reviews all consults/studies – improve flow in ED; comprehensive documentation with real-time monitoring – billing/DRGs)
      - Clinical Services
        - Trauma
          - Traumatic Brain Injury – (1) from concussion to coma, (2) neurocritical care and surgical treatment, and (3) non-operative treatment
          - Spine and Spinal Cord Injury – (1) neurocritical care and surgical treatment and (2) non-operative treatment
        - Non-Trauma
          - Craniocerebral – (1) tumors, (2) aneurysms, (3) vascular malformations, and (4) intra/extra-cranial ischemic disease
          - Spinal – (1) degenerative, (2) deformity, and (3) tumors
        - Ambulatory – The following are the clinics:
          - 4M Clinic – Tuesdays (2-3 attendings, NPs, +/- resident); not a "resident" clinic
          - TBI Clinic – twice a month
          - Concussion Clinic – once a month
          - Spine Clinic

      The collaboration with other departments (Neurology, ED, Radiology, etc.) and providers has led to excellent patient care. The Neurosurgery Service deliver services that are done at the main campus hospital and services that exceed many of the community hospitals in the region. Moreover, the Department would like to expand some of the elective surgery for the population served at SF.
      - Patient Population
        The Department serves many from the disadvantaged populations with extensive efforts to ensure provision of services needed by these people to return to work and/or family life. The Department recognizes the need to consider socio-economic factors for effectiveness of services and recovery of the patients; additional services have been employed for years to ensure their attainment.
      - Trauma and Emergency Neurosurgery Calls
        The Department has utilized incredible OR rooms and worked with highly skilled OR staff. Dr. Manley highlighted that injuries to spine and brain need to be quickly attended to. The Trauma and Emergency Neurosurgery calls have been deemed of high intensity with 8.7K hours a year of primary calls (24/7) and 8.7K hours a year of back-up calls (24/7).
      - "One Service" Model – A simple model is in place: 1 attending every week, 1 NSG resident who rotates 4 months at a time, and 1 intern at a time from a pool of 3 interns. In addition, there are back-up staff and NP support. Key statistics in 2021 are as follows:
        - Operations – 380 cases (19% increase since 2018)
        - Consults – 2,155 (37% increase)
        - Inpatient Service – average of 20-25 inpatients, with 5-7 of these in ICU
        - Critical Care – ≈2K encounters (yearly upward trend with geriatric population sicker than population served 20 years ago)
      - Neurosurgery Staff – Along with Dr. Manley, there are 4 physicians, 1 fellow, 5 NPs.

2. Faculty and Fellows- For attending staff, there are 3.22 FTE; the estimated "right size" is 4.5 – 5.3 FTE with plan of 4.7 FTE for FY 2022. Currently, there are 72 hours of call per FTE a week.

3. Clinical Care and Performance Improvement Activities
   The Service is the first in the nation to receive The Joint Commission Certification for Traumatic Brain Injury. The last certification was in 2020, and there will no longer be disease-specific certifications as per notification from TJC. However, the National Academy of Sciences, Engineering, and Medicine (with its Forum on TBI) is communicating with TJC to start thinking of a new certification program for TBI. The following process indicators were presented:
   a. TBI Patient Serum EtOH (alcohol) Screening – For FY 2021-2022, 71% of TBI patients were screened for EtOH versus 84% the previous year. The process was at 30% - 40% when it began.
      At ZSFG and around the country, at least 40% of people with TBI used alcohol. Such needs to be addressed; as a Level 1 Trauma Center, ZSFG takes opportunities to educate. In collaboration with the Addiction Care Team, 76% of at-risk TBI patients substantially improved in FY 2021-2022 from Alcohol Use Disorder. With the aim of reducing alcohol

use or eliminating its use, the likelihood of return for a TBI is reduced. Such scenarios have been witnessed repeatedly over the years.

b. Follow-up for GCS 13-15 ('Mild') TBI Patients – Since ≈50% of them are not fully recovered by a year, these patients are no longer categorized as "mild" TBI cases. The Department is extensively exerting to follow up the patients. Though there is no dedicated staff as part of the research team, the current follow-up is about 47% with opportunities for improvement including better contact information in the charts.
c. Efforts to Reduce CAUTI – The Department partnered with Neurology to operationalize an evidence-based urine protocol to reduce overdiagnosis of CAUTI.
d. Prevention – The Department performs community outreach. An event in May 2022 included screening for strokes and increasing awareness of risk factors for strokes, along with fitting and distribution of 80 pediatric bicycle helmets. Moreover, helmets are kept in the offices to provide to patients when needed.
e. Partnership with Nursing and Education – The goal is to promote excellence in Neuro Care. The programs include the following:
    - NeuroPro- 8 experienced ICU RNs given mentoring and advanced clinical training in management of TBI
    - Ongoing Bedside Education/support – bedside chats, debrief and healing
    - Love Your Brain – outpatient service (yoga, meditation, and education) for TBI survivors and their caregivers
    - NeuroTrauma Symposium – an education event for staff ZSFG and DPH (and others in the region) which will be resumed in 2023

4. Research
    a. Scope - The total funding amounts to $94.6M with the breakdown as follows: (1) DoD - $50.4M, (2) NIH $12.1M, (3) Private - $29.1M, and (4) Non-Profit - $3M. Furthermore, the Department works with many people around the country through Track-TBI Team. Track-TBI started as a small study based at ZSFG in 2007 and evolved into an almost corporate research enterprise wherein there are multiple studies through DoD and NIH. Moreover, there is extensive translational work with private partners, specifically Abbott and other companies, to try to get these to the patients' bedside.
    b. Key Projects and Contributions- Many publications by the Department have changed the way healthcare professionals are taking care of TBI patients. Many of the work generated will be included in the new round of ACS TQIP (American College of Surgeons Trauma Quality Improvement Program) best practices in the management of TBI.
        - Blood Test for Concussions - Last year, the Department had clearance for some of blood-based biomarkers that eliminate need for head CT; a pilot program is being planned for clinical care at ZSFG. There is a new initiative with Abbott that received FDA clearance for the first rapid handheld blood test for concussions; care will be changing rapidly within the next 3 years.
        - TBI: Roadmap for Accelerating Progress - The National Academies of Sciences, Engineering, and Medicine established a committee to form a roadmap for accelerating progress in TBI. It was noted that at least 4.8M people per year are seeking help for their TBI without any follow-up. There were 8 recommendations that focus on actions for better care after saving a life; the Department has successfully implemented these recommendations in delivering care.
        - TBI Care Action Collaborative - A Forum on TBI was established, comprising of 40 institutes/agencies/private partners/academic participants. The Forum's goal is to execute some of the work being done. The Department will be working on the TBI Care Action Collaborative and will be hosting the 1st meeting in San Francisco in December 2022. There will be discussions on the following: (1) TBI education and discharge instructions, (2) best practices for post-acute care, and (3) demonstration project: LHCS (Learning Health Care System).

5. Financial Report (FY 2021-2022)
    a. Revenue – Most revenues come from research and sponsored projects.
    b. Expenses - The affiliation agreement increased from FY20-21 to FY 21-22 to align with the average MGMA (Medical Group Management Association) median salary rates for Neurosurgery. The change will help in faculty retention and future recruitment.

6. Challenges – They include the following: (1) recruitment of new faculty, (2) future physical environment for neurosurgery clinical and research team, and (3) resources for new clinical programs on minimally invasive spine surgery and equipment service contracts, and (4) trauma transfers.

Dr. Lisa Winston, along with other MEC members, commended and thanked Dr. Manley for his amazing work on landmark research and clinical care; training; collaboration; and dedication over 20 years. Dr. Manley is considered to be the most prominent neurotrauma expert in the world; the protocols used for the neurotrauma care nationally and worldwide are derived from ZSFG. Moreover, Dr. Manley's leadership and incredible team were credited for the 60% reduction in TBI mortality (most recent TQIP) at ZSFG that is one of the leaders in the country. In addition, Dr. Manley was recognized for his leadership on researching long-term outcome for a long period of time that has been deemed critical by the trauma community for inpatient care and aftercare.

ZSFG CHIEF OF STAFF ACTION ITEMS
Presented to the JCC-ZSFG on October 25, 2022
October 2022 MEC Meetings

Clinical Service Rules and Regulations

- Neurosurgery R&R (Copies sent to Commissioners)
- Neurosurgery R&R Summary of Changes (attached)

Credentials Committee –

A. Standardized Procedures (Attached)
-Primary Care RN HTN MANAGEMENT SP (#9 with Appendix A to C) NEW
B. Privileges Lists - NONE

Summary of Changes to Neurosurgery Rules and Regulations

The main change to the 2022 Neurosurgery Rules and Regulations is the addition of the Chief of Clinical Service position. This position was created to provide additional oversight and management of neurosurgical clinical operations at ZSFG. Responsibilities will also include oversite of teaching activities for residents, fellows, and allied health professionals.

NEUROSURGERY CLINICAL SERVICE
RULES AND REGULATIONS

202218

Zuckerberg San Francisco General Hospital & Trauma Center
1001 Potrero Avenue
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I. NEUROSURGERY CLINICAL SERVICE ORGANIZATION

A. SCOPE OF SERVICE

The Neurosurgery Service at Zuckerberg San Francisco General Hospital & Trauma Center is an integral part of the Department of Neurological Surgery at The University of California, San Francisco. The Service serves a broad community of patients and their physicians through the maintenance and continuing development of capacity for the management of surgical disorders of the nervous system with a special emphasis on Neurotrauma and Neurocritical care. While problems associated with acute and severe illness and injury are addressed daily, the range of conditions treated includes chronic and degenerative diseases of the brain, spine, and peripheral nerves. Excellence in patient care is dependent on vigorous interaction with neurological, radiological and other expert ZSFG colleagues.

The Rules and Regulations of the Neurosurgery Clinical Service correspond to the standards and requirements set forth in the ZSFG Medical Staff Bylaws, Rules and Regulations.

Standards of professional clinical practice are those applicable to all full- and part-time faculty members of the Department of Neurological Surgery of the University of California, San Francisco.

B. MEMBERSHIP REQUIREMENTS

Membership on the Medical Staff of Zuckerberg San Francisco General Hospital & Trauma Center is a privilege that shall be extended only to those practitioners who are professionally competent and continually meet the qualifications, standards, and requirements set forth in ZSFG Medical Staff Bylaws, Rules and Regulations.

1. Board Eligible or Board Certified by ABNM~~M~~S Neurological Surgery (may be waived at the recommendation of the Chief of Neurosurgery)
2. Current California medical licensure
3. Current DEA certification
4 CPR/ACLS/BCLS/ATLS is encouraged

C. ORGANIZATION and STAFFING OF NEUROSURGERY CLINICAL SERVICE

The members of the Neurosurgery ~~Clinical~~ Service are:

Chief of Service
Chief of the Clinical Service
Members of the Attending Neurosurgical Staff

1. Chief of Service

Responsibilities (Refer to Appendix D for job description):

a. Overall direction of the clinical, administrative, teaching, and research activities of the Neurosurgery Clinical Service.

b. Review and recommendation of all new appointments, request for privileges, and reappointments.

c. Appointment of the remaining officers of the neurosurgery clinical service and of committee members.

d. Financial affairs of the Neurosurgery Clinical Service.

e. Attendance at the Medical Executive Committee, the Chiefs of Service meetings, and other meetings as called from time to time by the Executive Administrator or the Chief of Staff.

f. Disciplinary actions as necessary, as set forth in the ZSFG Medical Staff and Rules and Regulations.

2. Chief of Clinical Service

Responsibilities (Refer to Appendix D for job description):

a. Overall direction of the clinical operations and teaching activities of the Neurosurgery Clinical Service.

b. Review and recommendation of all new clinical fellow appointments.

c. Coordination and attendance at the Neurosurgery Clinical Staff meeting, and other meetings as called from time to time by the Executive Administrator or the Chief of Staff.

d. Disciplinary actions as necessary for clinical staff, as set forth in the ZSFG Medical Staff and Rules and Regulations.

Attending Physician Responsibilities

Responsibilities include:

a. Overall direction of clinical care is the responsibility of the attending staff of the Neurosurgery Clinical Service. In order to discharge that responsibility, close supervision and active participation in decision-making is required.

b. All neurosurgical procedures performed in the operating theater will be supervised by an attending neurosurgeon who is physically present during the case. Most procedures can be started by the Neurosurgery Chief Resident without the direct physical supervision of a Neurosurgical Attending provided he/she has previously discussed patient preoperative assessment, surgical approach, and patient positioning with the responsible Neurosurgical Attending. When the Chief Resident performs any procedure for the first time, the responsible attending must be in the room from the beginning. Particularly complex procedures or instances where the Attending and Chief Resident are unfamiliar with each other will also require attending supervision from the beginning of the case.

c. Under certain conditions, it will be necessary for the Chief Resident to start a procedure prior to the physical presence of an Attending. This situation applies mainly to emergency neurosurgical procedures for trauma occurring after regular working hours. The vast majority of these procedures are straightforward and there should be no difficulty for a Chief Resident to begin these on his/her own after discussing the case

with an Attending Neurosurgeon. Nevertheless, the physical presence of an attending is required during the critical portion of the operation.

d. All elective cases require that the Attending Neurosurgeon be in-house while the patient is in the operating room (OR) and he/she be physically present in the OR during the important aspects of the procedure. For some procedures, such as lumbar discectomy or stereotactic brain biopsy, the actual physical involvement of the attending neurosurgeon may be minimal. Nevertheless, direct supervision by an attending neurosurgeon who is physically in the operating theater is also required during the more important aspects of these procedures.

e. The degree to which a neurosurgical attending actively participates in a surgical procedure will be in proportion to its complexity and the capabilities of the Chief Resident. As such, a greater degree of attending participation is expected for extra- or intracranial vascular surgery, complex tumor surgery or for spinal procedures involving complex instrumentation.

g. Procedures performed outside the operating theater may sometimes be performed without the direct physical supervision of an Attending Neurosurgeon ~~.—~~provided he/she has discussed the patient preoperative assessment, imaging, and details of the procedure. These include placement of a HALO cervicothoracic orthosis, insertion of intraparenchymal or intraventricular intracranial pressure monitors, advanced neuromonitors (brain tissue oxygen, cerebral blood flow, microdialysis), insertion of routine intravascular monitoring lines (e.g., central venous pressure lines, pulmonary capillary wedge pressure lines, arterial lines, or jugular venous saturation monitoring lines), and tapping of ventricular access (Ommaya) or ventriculoperitoneal shunt reservoirs. In addition, closure of non-complicated, post-traumatic wounds (both in the operating theater and outside) may be performed in an unsupervised fashion by the neurosurgical chief resident when performed as a service to the trauma team or emergency department.

II. CREDENTIALING

A. NEW APPOINTMENTS

The process of application for membership to the Medical Staff of ZSFG through the Neurosurgery Clinical Service is in accordance with ZSFG Medical Staff Article II, *Medical Staff Membership*, Rules and Regulations as well as these Clinical Service Rules and Regulations.

B. REAPPOINTMENTS

The process of reappointment to the Medical Staff of ZSFG through the Neurosurgery Clinical Service is in accordance with ZSFG Medical Staff Bylaws, Rules and Regulations.

1. Modification of Clinical Service

Changes in patterns of practice within the Neurosurgery Service, whether occasioned by clinical or fiscal or other constraints or whether by expansion of service through new competence or new facilities, require discussion and approval by the Service. This specifically includes new operative or other technical procedures and approaches.

2. Staff Status Change

The process for Staff Status Change for members of the Neurosurgery Services is in accordance with ZSFG Medical Staff Bylaws, Rules and Regulations.

3. Modification/Changes to Privileges

The process for Modification/Change to Privileges for members of the Neurosurgery Service is in accordance with ZSFG Medical Staff Bylaws, Rules and Regulations.

C. PRACTITIONER PERFORMANCE PROFILES

The attending neurosurgeons of the Neurosurgery Service include full-time University employees and non-compensated members of the UCSF Neurosurgery Department's clinical faculty. In other cases they must be board eligible or board certified in neurological surgery and must meet the standards, and abide by the regulations of the University of California School of Medicine. All patient care matters pertaining to attending physicians, individually or as a group, are addressed as they arise, in regular Neurosurgery Service meetings. Specific events, including incident reports and occurrences with potential or actual legal implications, are reviewed in association with the UCSF Risk Management Office at ZSFG.

D. AFFILIATED PROFESSIONALS

The process of appointment and reappointment of the Affiliated Professionals to ZSFG through the Neurosurgery Clinical Service is in accordance with ZSFG Medical Staff Bylaws, Rules and Regulations, as well as these Clinical Service Rules and Regulations.

E. STAFF CATEGORIES

The Neurosurgery Clinical Service fall into the same staff categories which are described in Article III- *Categories of the Medical Staff* of the ZSFG Medical Staff Bylaws, Rules and Regulations.

III. DELINEATION OF PRIVILEGES

A. DEVELOPMENT OF PRIVILEGE CRITERIA

Neurosurgery Clinical Service privileges are developed in accordance with ZSFG Medical Staff Bylaws, Rules and Regulations as well as these Clinical Service Rules and Regulations. Refer to Appendix A.

B. ANNUAL REVIEW OF CLINICAL SERVICE PRIVILEGE REQUEST FORM

The Neurosurgery Clinical Service Privilege Request Form shall be reviewed annually

C. CLINICAL PRIVILEGES AND MODIFICATIONS/CHANGES TO CLINICAL PRIVILEGES

Neurosurgery Clinical Service privileges shall be authorized in accordance with the ZSFG Medical Staff Bylaws, Rules and Regulations as well as these Clinical Service

Rules and Regulations. All requests for clinical privileges will be evaluated and approved by the Chief of the Neurosurgery Clinical Service.

Privileges to practice in the Neurosurgery Clinical Service will be commensurate with clinical training and documentation of an acceptable standard of clinical practice.

Privileges are delineated by consensus of the active members of the Neurosurgery Clinical Service and are recommended for approval by the Chief of Neurosurgery, subject to the recommended approval of the Credentials Committee of the Medical Staff and the Governing Body.

Individual privileges are subject to review and revision at an initial appointment, throughout the period of proctoring, at the time of reappointment, at the time as judged necessary by the Chief of Service, or at any time recommended by two thirds of the Service's active staff.

D. TEMPORARY PRIVILEGES

Temporary Privileges shall be authorized in accordance with the ZSFG Medical Staff Bylaws.

IV. PROCTORING AND MONITORING

A. REQUIREMENTS

Monitoring (proctoring) requirements for the Neurosurgery Clinical Service shall be the responsibility of the Chief of the Service. Such requirements shall include, as a minimum, the successful management by each proctored physician of six (6) clinical cases, including surgical therapy and all pre- and post-operative care and the interval to final outcome. Assessment is based on review of all pertinent records including inpatient and outpatient documents, incorporating critical care, operative, and pathologic data. All areas of concern or uncertainty in performance assessment will be addressed by such further review of additional cases as the Chief of Service determines to be required for such assurance, and the areas of performance meeting such additional examination necessary will be discussed with the proctored physician.

Additionally, continuous review of clinical cases through detailed morbidity and mortality analyses, identifying in each case the responsible attending physician, provides an ongoing process of monitoring of all Neurosurgery Service attending physicians, and includes documentation of all analyses and discussions on a regular basis. All sources of data are used in identification of problems, risks and practice trends.

B. ADDITIONAL PRIVILEGES

Requests for additional privileges for the Neurosurgery Clinical Service shall be in accordance with ZSFG Medical Staff Bylaws.

C. REMOVAL OF PRIVILEGES

Requests for removal of privileges for the Neurosurgery Clinical Service shall be in accordance with ZSFG Medical Staff Bylaws.

V. EDUCATION OF MEDICAL STAFF

Education is considered a prime function of the Neurosurgery Service of Zuckerberg San Francisco General Hospital as an academic component of the Department of Neurological Surgery of the University of California, San Francisco. It is not simply a necessary by-product of clinical activity. The process of education applies to all medical persons whether within school of postgraduate training, or board certified and beyond. Daily rounds include residents, fellows, interns (PGY-1), attending physicians, clinical nurse specialists, and students, as well as associated staff including representatives of speech pathology, physical therapy, and social services, and other participants. Discussion of each case permits involvement and input by each of these persons as various aspects are addressed. Specific examples include detailed critical care/advanced physiology discussions with Critical Care and Neuro-vascular specialists on the one hand, and discussion of efficient and effective patient placement in rehabilitation or other programs on the other. Prior to or during daily clinical rounds review of all new and otherwise pertinent radiographic data is conducted with discussion of a number of relevant clinical and scientific points.

Education also includes a weekly neuroradiology conference attended by neurosurgical, neurological and radiologic faculty and housestaff members, and by medical students. Regular focused conferences include spine, trauma, and neurology/neurosurgery meetings in which topics are reviewed after preparation, often incorporating bibliographic sources. In addition, medical students meet on Wednesday and Friday mornings for organized patient-centered discussion with a designated neurosurgical attending physician from full-time to clinical faculty. The Neurosurgery Service contributes to the education of neurosurgeons, neurologists, and other specialists, including primary care physicians, through both formal and informal exchange of ideas and experience. Members of the clinical faculty are encouraged to spend day-long intervals of time with staff and housestaff on the Service, contributing to their own learning and enhancement of advanced skills in diagnosis and therapy. The ZSFG Neurosurgery faculty participates on a weekly (or more frequent) basis in UCSF Neurosurgical rounds, Neuro-radiological rounds, and research progress meetings. When possible they also participate in other special conferences including pediatric neurosurgery, vascular surgery, and neuropathology sessions. Medical students are invited to observe neurosurgical operations and participate under supervision in case management in the intensive care units, the wards and the outpatient clinic. They are actively encouraged to learn through association with physicians who do likewise.

VI. NEUROSURGERY CLINICAL SERVICE HOUSESTAFF TRAINING PROGRAM AND SUPERVISION *(Refer to CHN Website for Housestaff Competencies link.)*

The members of the housestaff participating in the activities of the ZSFG Neurosurgery Service vary somewhat in number and level of experience, but usually include two PGY-1 physicians and one intermediate level UCSF Neurosurgical resident serving as Chief Resident. All function under the continuing, daily supervision of qualified attending neurosurgeons who are ultimately responsible for all aspects of the safety and welfare of every patient. The interns referred to are usually, but not always, members of the ZSFG general or specialty surgical services' housestaff. They may be supplemented by a more senior resident from any surgical specialty.

Zuckerberg San Francisco General Hospital & Trauma Center offers an important complex of experiences for the neurosurgical resident assigned. Through relative autonomy and progressing responsibility he or she develops diagnostic, operative, physiologic and pharmacologic, and other essential skills, especially in relation to acute, severe illness or injury. The Neurosurgery Service is mindful of the need for constant supervision of every resident during the process of rapid development of clinical competence and confidence and acts accordingly through in-person

direction of every operative procedure and every clinical case during daily, and often more frequent, focused rounds. It is the policy of the Neurosurgery Service that every patient admission, every consultation, and every significant clinical change in hospitalized patients is discussed by the neurosurgical resident with the responsible faculty neurosurgeon. A small number of procedures may be performed by a resident after attending approval. These are limited to placement of intracranial pressure monitors, advanced neuromonitors, access lines and lumbar drains, as examples. With such practical exceptions no neurosurgical procedures are conducted without the physical presence of an attending neurosurgeon. This invariable rule applies to night-time emergencies with the same force as an elective day-time operation. On alternate weekends and on some other occasions a neurosurgical resident assigned elsewhere in the UC program covers for the ZSFG chief resident. All of the same policies continue to apply.

The goal of the Neurosurgery Service with respect to resident training has two objectives, each fully consistent with the other when properly organized and vigorously pursued; the safe, effective, and compassionate care of patients, and the development to the maximum extent possible of resident competence.

Attending faculty shall supervise house staff in such a way that house staff assumes progressively increasing responsibility for patient care according to their level of training ability and experience.

A. ROLE, RESPONSIBILITY AND PATIENT CARE ACTIVITY OF THE HOUSE STAFF

1. Role of Resident Within the Service

The service consists of one Chief Resident and three interns (PGY 1). The interns shall field all primary calls regarding in-house patients and take first call for consults and emergency room admissions. In addition, the interns shall write all admission orders, transfer orders and dictate discharge and transfer summaries for the service in addition to pre-rounding on service patients and consults prior to morning rounds. Interns are expected to consult frequently with the Chief Resident with any and all patient-care issues. Furthermore, the interns are required to immediately contact the Chief resident regarding all consults and emergency room admissions.

The Chief Resident shall take primary responsibility for the running of the clinical service. This includes supervision of the interns, maintenance of the surgical schedule, scheduling cases, and participating in all neurosurgical operations. The Chief Resident is expected to consult frequently with the responsible Attending with any and all patient-care issues. Furthermore, the Chief Resident shall contact the responsible attending regarding all neurosurgical consults and emergency room admissions upon completion of the initial evaluation. In addition, he/she shall discuss all surgical cases with the responsible attending prior to making the final surgical decision.

2. House Staff Supervision

Supervision of the house staff shall be the responsibility of the service attending as well as the Chief of Service. The service attending shall round with the house staff on a daily basis allowing the Chief Resident to run rounds and to formulate the patient care-plan. However, the service attending has the responsibility to modify such plan as he/she may deem appropriate while discussing the change in an instructional manner. Surgical supervision shall be as stated in sections I.C.3.a-f.

Progressive patient-care involvement and independence of action shall be left at the discretion of the supervising attending and the Chief of Service.

B. RESIDENT EVALUATION PROCESS

Informal evaluation shall be done on a daily basis with emphasis placed on house-staff and medical student instruction. Formal evaluation shall be done on a monthly basis for interns via the UCSF computerized evaluation system. The Chief Resident shall be evaluated at the end of his/her rotation (4-6 months) via the UCSF Department of Neurosurgery resident evaluation form. These are submitted to the Residency Program Director of Neurosurgery. Formal feedback to the interns is done through the UCSF Department of Surgery. Formal feedback to the Chief Resident is done through the office of the Residency Program Director of the UCSF Department of Neurosurgery. Informal feedback is done via face-to-face discussion between the Chief of Service and the Chief Resident or intern.

C. PATIENT CARE ORDERS

At the beginning of their rotation, all residents and interns shall be given a copy of both the Neurosurgery House Staff Manual and Guidelines for the Critical Care Management of Severe Head Injury which address guidelines for patient care, orders, and neurological and neurosurgical assessment. Proper order writing and patient care issues will be re-enforced on daily rounds and conferences. Housestaff are expected to independently write orders for step-down unit and regular ward patients under general patient-care guidelines discussed on daily rounds. All new orders or changes in patient-care plan for ICU patients must be discussed with the Chief Resident. He/she shall then discuss these with the attending prior to their implementation.

VII. NEUROSURGERY CLINICAL SERVICE CONSULTATION CRITERIA

The Neurosurgery Service provides consultation on both urgent and routine bases on behalf of any requesting service. Such requests frequently originate in the Emergency Department, ICU, Operating Room or other acute care sites. The importance of prompt response is recognized by a policy that requests for consultation will be answered immediately, in cases described as unstable, changing, or unclear, and as soon as practicable in all other cases, including relatively minor or stable conditions. In this sense, no consultation is considered “routine” or unimportant. In the case of severe or undiagnosed problems the resident immediately discusses the case with the responsible attending neurosurgeon, at any hour, and in any matter of doubt about diagnosis or therapy the attending neurosurgeon personally sees the patient immediately. The attending neurosurgeon is called for discussion and approval at some time during the consultation process in every case. The Neurosurgery Service also serves as an information resource for physicians calling from acute care facilities.

VIII. DISCIPLINARY ACTION

The Zuckerberg San Francisco General Hospital & Trauma Center Medical Staff Bylaws, Rules and Regulations will govern all disciplinary action involving members of the ZSFG Neurosurgery Clinical Service.

IX. PERFORMANCE IMPROVEMENT PATIENT SAFETY (PIPS) AND UTILIZATION MANAGEMENT

A. GOALS AND OBJECTIVES

1. To insure appropriate care and safety of all patients receiving care in the department

2. To minimize morbidity and mortality as well as to avoid unnecessary days of inpatient care.

3. The Chief of Service is responsible for ensuring solutions to quality care issues. As necessary, assistance is invited from other departments, the PIPS Committee or the appropriate administrative committee or organization.

4. The Neurosurgery Clinical Service is committed to the highest possible standard of clinical practice. The Neurosurgery Performance Improvement and Patient Safety program is detailed in the document, Performance Improvement and Patient Safety Plan, Attachment B.

B. MEDICAL RECORDS

1. The members of the Neurosurgery Clinical Service are committed to the maintenance of complete, accurate and timely medical records. The requirements as set forth in the ZSFG Medical Staff Bylaws, Rules and Regulations define the minimum standards for medical records in Neurosurgery.

2. Operative Records
   Dictated operative reports will contain all of the following, at a minimum:
   a) preoperative diagnosis
   b) postoperative diagnosis
   c) operative procedures performed
   d) operating team
   e) major findings
   f) succinct description of the operation performed, such that an individual trained in the procedure would understand the techniques employed.
   g) complications
   h) estimate of blood loss
   i) listing of specimens sent

   Dictated operative reports are required for all major and minor operative procedures performed in the operating suite.

3. Discharge Summaries
   Dictated discharge summaries will contain a succinct description of the reasons for hospitalization, the course of treatment, complications of treatment, condition on discharge and plans for continuous care post-hospitalization. Dictated discharge summaries will be completed on all patients in the hospital for more than 48 hours. Patients hospitalized less than 48 hours may have a handwritten or dictated discharge summary at the discretion of the treating resident or attending physician.

C. INFORMED CONSENT

1. All decisions for treatment should involve the active participation of the patient, and should be made after appropriate discussions of risks, benefits, and alternatives.
2. Documentation of "Informed Consent" on Medical Staff-approved forms is required for all surgical procedures performed in the operating room.
3. Documentation of patient consent will be provided by a signed Operative Consent Form as well as by a Preoperative Note in the progress notes by the operating surgeon detailing:

    a) The goal of the procedure to be performed.
    b) Alternative therapies
    c) Complications that may be reasonably anticipated or associated with the procedure
    d) The likelihood of success with the procedure

D. CLINICAL INDICATORS

Clinical Indicators, including head trauma hospital admissions requirements, are addressed in the monthly comprehensive Morbidity and Mortality reviews conducted by the UCSF Neurosurgery Department and with separate analysis of all aspects of patient care at each of the four teaching hospitals specifically including ZSFG at each monthly conference.

E. CLINICAL SERVICE PRACTITIONERS PERFORMANCE PROFILES

The attending neurosurgeons of the Neurosurgery Service include full-time University employees and non-compensated members of the UCSF Neurosurgery Department's clinical faculty. In other cases they must be board eligible or board certified in neurological surgery and must meet the standards, and abide by the regulations of the University of California School of Medicine. Specific events, including incident reports and occurrences with potential or actual legal implications are reviewed in association with the UCSF Risk Management Office at ZSFG.

F. MONITORING & EVALUATION OF APPRORIATENESS OF PATIENT CARE SERVICES

All aspects of patient care including outpatient, in-hospital, consultative, diagnostic, and operative management matters are discussed and reviewed on a continuing basis. Daily bedside, weekly in neurosurgery meetings (whenever indicated) and monthly in relation to all morbidity, death and outcome issues.

G. MONITORING & EVALUATION OF PROFESSIONAL PERFORMANCE

1. Physicians

Attending physician performance is assessed as a part of the mechanism noted on a continuing basis. In addition, active participation in Neurosurgery Service meetings, medical records maintenance, other administrative activities and productions, interaction with non-clinical staff members are expected.

2. Housestaff

The performance of the housestaff assigned to the Neurosurgical Service is monitored by daily observations in rounds and in all clinical activities. Evaluation

includes completion of performance assessment forms, with additional comments, submitted to the UCSF School of Medicine.

3. **Affiliated Professionals**
   The work of research nurses and research associates engaged in clinical trials and scientific efforts is assessed on an ongoing basis. As currently planned such staff will include a clinical nurse specialist who will coordinate the many daily clinical activities of the Neurosurgery Service.

4. **ZSFG Employees other than Affiliated Professionals**
   The performance of non-clinical employees is assessed by the Administrative Analyst, in coordination with the Chief of Service, with submission of summaries to the management services officer responsible for service-wide administration.

X. MEETING REQUIREMENTS

In accordance with ZSFG Medical Staff Bylaws 7.2.I, All Active Members are expected to show good faith participation in the governance and quality evaluation process of the Medical Staff by attending a minimum of 50% of all committee meetings assigned, clinical service meetings and the annual Medical Staff Meeting.

The Neurosurgery Clinical Services shall meet as frequently as necessary, but at least quarterly to consider findings from ongoing monitoring and evaluation of the quality and appropriateness of the care and treatment provided to patients.

As defined in the ZSFG Medical Staff Bylaws, Article VII, 7.2.G., a quorum is constituted by at least three (3) voting members of the Active Staff for the purpose of conducting business.

XI. ADOPTION AND ADMENDMENT

The Neurosurgery Clinical Service Rules and Regulations will be adopted and revised by a majority vote of all Active members of the Neurosurgery Service annually at a quarterly held Neurosurgery Clinical Service Meeting.

Zuckerberg San Francisco General Hospital & Trauma Center
1001 Potrero Avenue
San Francisco, CA 94110

APPENDIX A NEUROSURGERY PRIVILEGE REQUEST FORM

Privileges for Zuckerberg San Francisco General Hospital

Requested Approved

Applicant: Please initial the privileges you are requesting in the Requested column.
Service Chief: Please initial the privileges you are approving in the Approved column.

20 NEUROSURGERY

_____ _____ **20.00 NEUROSURGERY PRIVILEGES**
MINIMUM CRITERIA: Currently Board Admissible, Board Certified, or Re-Certified by the American Board of Neurological Surgery.

_____ _____ **20.10 CRANIOTOMY OR CRANIECTOMY - BURR HOLES**

_____ _____ 20.11 Aneurysms, Arteriovenous malformations

_____ _____ 20.12 Tumors: primary/secondary, Intra/extra-axial, intraventricular, supra/infratentorial

_____ _____ 20.13 Hematomas, Infection

_____ _____ 20.14 Congenital Anomalies

_____ _____ 20.15 Cranial Nerve Decompression

_____ _____ 20.16 Intracranial Infections

_____ _____ 20.17 Transnasal Surgery for Tumors, CSF leak, Infection

_____ _____ 20.18 Shunt Procedures

_____ _____ **20.20 SPINAL**

_____ _____ 20.21 Laminectomy or laminotomy for disc infection, stenosis, trauma, tumor, vascular anomaly

_____ _____ 20.22 Anterior vertebral approach with or without fusion

_____ _____ 20.23 Anterior Cervical Instrumentation

_____ _____ 20.24 Posterior Cervical Instrumentation

_____ _____ 20.25 Anterior Thoracolumbar Instrumentation

_____ _____ 20.26 Posterior Thoracolumbar Instrumentation

_____ _____ **20.30 PERIPHERAL NERVE: Peripheral Nerve Neurolyses, Decompression, Repair**

_____ _____ **20.40 TRACHEOSTOMY**

_____ _____ **20.50 INTRACRANIAL & EXTRACRANIAL REVASCULARIZATION**
MINIMUM CRITERIA: Currently Board Admissible, Board Certified, or Re-Certified by the American Board of Neurological Surgery. Based on demonstrated competence, with documentation of focused experience.
SCOPE: Includes all Extracranial Vascular Procedures and Microvascular Anastomosis

_____ _____ **20.60 FUNCTIONAL & STEREOTACTIC SURGERY**
MINIMUM CRITERIA: Currently Board Admissible, Board Certified, or Re-Certified by the American Board of Neurological Surgery. Based on demonstrated competence, with documentation of focused experience.

_____ _____ 20.61 Stereotactic cranial or spinal recording, stimulation or ablative procedures

_____ _____ 20.62 Stereotactic Biopsy or Irradiation

_____ _____ 20.63 Percutaneous or Open Spinal Ablative Procedures

_____ _____ 20.64 Implantation of spinal or peripheral nerve stimulation devices

_____ _____ 20.65 Ventricular and spinal fluid studies

_____ _____ 20.66 Intraoperative Angiography

_____ _____ 20.67 Intracranial Pressure Monitoring

_____ _____ **20.70 CENTRAL VENOUS ACCESS PROCEDURES**
MINIMUM CRITERIA: Currently Board Admissible, Board Certified, or Re-Certified by the American Board of Neurological Surgery. Based on

demonstrated competence, with documentation of focused experience.
SCOPE: Insertion of central venous access lines, Swan Ganz Catheters, Triple Lumen Catheters, Jugular Venous Saturation Monitoring

_____ _____ **20.80 NEUROSONOLOGY**

MINIMUM CRITERIA: Currently Board Admissible, Board Certified, or Re-Certified by the American Board of Neurological Surgery including formal training in the basic principles and clinical application of Neurosonology; or a minimum of 40 hours of Category I Training in courses approved by the ACGME and documentation of supervised interpretation of a minimum of 100 Neurosonology Studies. Verification of a passing score by the American Society of Neuroimaging (ASN) Neurosonology Examination.

_____ _____ 20.81 Perform Ultrasound examination for the diagnosis and management of cerebrovascular disease and head injury

_____ _____ 20.82 Interpretation of studies

_____ _____ **20.90 ACUTE TRAUMA SURGERY**

20 NEUROSURGERY
20.90 Acute Trauma Surgery
SCOPE: On-call trauma coverage for the comprehensive neurosurgical management of the acutely injured trauma patient.
CRITIERA: 1. Completion of ACGME-approved residency with Board certification/eligibility in Neurological Surgery. 2. Availability, clinical performance and continuing medical education consistent with current standards for neurosurgeons surgeons at Level One Trauma Centers specified by the California Code of Regulations (Title 22) and the American College of Surgeons.

_____ _____ **30.00 DIAGNOSTIC RADIOLOGY: FLUOROSCOPY**

MINIMUM CRITERIA: Currently Board Admissible, Board Certified, or Re-Certified by the American Board of Neurological Surgery. Current X-Ray/Fluoroscopy Certificate.

I hereby request clinical privileges as indicated above.

_____ _____
Applicant date

FOR DEPARTMENTAL USE:

_____ Proctors have been assigned for the newly granted privileges.

_____ Proctoring requirements have been satisfied.

_____ Medications requiring DEA certification may be prescribed by this provider.

_____ Medications requiring DEA certification will not be prescribed by this provider.

_____ CPR certification is required.

_____ CPR certification is not required.

APPROVED BY:

_____ _____
Division Chief date

_____ _____
Service Chief date

APPENDIX B NEUROSURGERY PERFORMANCE IMPROVEMENT AND PATIENT SAFETY (PIPS) PLAN

I. Goals and Objectives

A. To assure that all patients receive appropriate and timely care with respect to their diagnostic and therapy, including surgical treatment where appropriate.

B. To minimize to the fullest extent possible both morbidity and mortality.

C. To prevent unnecessary in-patient days.

II. Responsibility

The Chief of the Neurosurgery Service has the overall responsibility for the program. Initiation, implementation, and follow-up of patient care evaluation activities may be delegated to another staff member.

III. Components of the Performance Improvement and Patient Safety (PIPS)

A. The quality and appropriateness of care on the Neurosurgery Service area assessed by the following:

1. Morbidity and mortality review
2. Complications review including incidence of infections
3. Surgical case review without specimens
4. Housestaff evaluations
5. Chart reviews
6. Attending staff reappointment review
7. Clinical Service monthly meetings which include patient care
8. Incident reports and risk-management cases related to the clinical practice are responded to promptly since they are almost always based on complications of clinical events already documented in the minutes of the monthly Morbidity and Mortality Review. Search of the clinical records for additional details may also be necessary. This documentation is the mechanism by which adverse patterns and trends may be identified, in which case the following remedial actions are implemented:

    a) In-service education and training program,
    b) New revised policies and procedures
    c) Staffing changes or equipment changes

IV. Reporting

Evidence of all Neurosurgery Service performance improvement and patient safety activities will be maintained in the Service and reported during monthly Neurosurgery Service staff meetings. Minutes of the meetings will be forwarded to the QM office monthly.

V. Correction

The Chief of the Neurosurgery Service will be responsible for assuring the correction of interservice/committee patient-care issues. Assistance from the Q&UM Office will be requested when certain problems cross service/committee boundaries and/or when the Service is unable to correct the problem.

VI. Peer Review

Appraisal of Service and individual patterns of patient care as determined by reviews and evaluations conducted by the Neurosurgery Service, e.g., complication rates, housestaff reviews, and hospital committees/programs (e.g., Performance Improvement & Patient Safety, Infection Control), will be used by the Chief of the Service in the medical staff reappointment process and delineation of privileges. Patterns of care will be discussed during the monthly service meeting.

VII. Admission Policy for Patients with Head Trauma

Head-injury patients with either of the following:

a. New abnormality on CT scan of the head, or
b. Abnormal neurological exam not entirely attributable to intoxication or other obvious process, with negative CT

Will be admitted by the Chief Resident unless a neurosurgical-attending physician who has examined the patient and reviewed the scan writes a note that discharge is safe.

VIII. Service Policy: Level-One Trauma Designation

The Neurosurgery Service at the Zuckerberg San Francisco General Hospital supports the American College of Surgeons trauma designation criteria and procedures and maintains its service in compliance with Level-One Trauma criteria.

A housestaff member of the Neurosurgery Service is in-house 24 hours a day to respond immediately to the Emergency Clinical Service for cases involving trauma to the nervous system. A senior neurosurgical resident is immediately available from outside the hospital for additional consultation and for all cases requiring surgery. Minor cases such as wound debridement and scalp laceration repair do not require attending coverage.

The Neurosurgery Service is organized separately from the Trauma Service, but coordinates its activities closely with the Trauma Service. The Neurosurgery Service participates routinely in Trauma Quality Improvement proceedings and maintains its own independent Performance Improvement and Patient Safety Program.

Neurosurgery actively participates with a variety of other services at ZSFG through weekly joint conferences with Neurology and with Neuro-radiology, and monthly multidisciplinary conferences regarding trauma care at ZSFG. Faculty members of the Neurosurgery Service routinely teach principles of neuro-trauma care to other services within the Hospital.

APPENDIX C NEUROSURGERY HOUSESTAFF MANUAL
MAINTAINED IN NEUROSURGERY ADMIN OFFICE BUILDING 1, ROOM 101

APPENDIX D ~~CLINICAL SERVICE~~ CHIEF OF NEUROSURGERY SERVICE JOB DESCRIPTION

Chief of Neurosurgery Clinical Service

Position Summary:

The Chief of the Neurosurgery ~~Clinical~~ Service directs and coordinates the Service's clinical, administrative, educational, and research functions in keeping with the values, mission, and strategic plan of Zuckerberg San Francisco General Hospital (ZSFG) and the Department of Public Health (DPH). The Chief also insures that the Service's functions are integrated with those of other clinical departments and with the Hospital as a whole.

Reporting Relationships:

The Chief of Neurosurgery Clinical Service reports directly to the Associate Dean and the University of California, San Francisco (UCSF) Department Chair. The Chief is reviewed not less than every four years by a committee appointed by the Chief of Staff. Reappointment of the Chief occurs upon recommendation by the Chief of Staff, in consultation with the Associate Dean, the UCSF Department Chair, and the ZSFG Executive Administrator, upon approval of the Medical Executive Committee and the Governing Body. The Chief maintains working relationships with these persons and groups and with other clinical departments.

Position Qualifications:

The Chief of Neurosurgery Clinical Service is board certified, has a University faculty appointment, and is a member of the Active Medical Staff at ZSFG.

Major Responsibilities:

The major responsibilities of the Chief of the Neurosurgery ~~Clinical~~ Service include the following:

Providing the necessary vision and leadership to effectively motivate and direct the Service in developing and achieving goals and objectives that are congruous with the values, mission, and strategic plan of ZSFG and the DPH;

In collaboration with the Executive Administrator and other ZSFG leaders, developing and implementing policies and procedures that support the provision of services by reviewing and approving the Service's scope of service statement, reviewing and approving Service policies and procedures, identifying new clinical services that need to be implemented, and supporting clinical services provided by the Department;

In collaboration with the Executive Administrator and other ZSFG leaders, participating in the operational processes that affect the Service by participating in the budgeting process, recommending the number of qualified and competent staff to provide care, evaluating space and equipment needs, selecting outside sources for needed services, and supervising the selection, orientation, in-service education, and continuing education of all Service staff;

Serving as a leader for the Service's performance improvement and patient safety programs by setting performance improvement priorities, determining the qualifications and competencies of Service personnel who are or are not licensed independent practitioners, and maintaining appropriate quality control programs; and

Performing all other duties and functions spelled out in the ZSFG Medical Staff Bylaws.

APPENDIX E CHIEF OF CLINICAL SERVICE JOB DESCRIPTION

Chief of the Clinical Service

Position Summary:

The Chief of the Clinical Service directs and coordinates the Service's clinical and educational functions in keeping with the values, mission, and strategic plan of Zuckerberg San Francisco General Hospital (ZSFG) and the Department of Public Health (DPH). The Clinical Chief also insures that the Service's functions are integrated with those of other clinical departments and with the Hospital as a whole.

Reporting Relationships:

The Chief of the Clinical Service reports directly to the Chief of the Neurosurgery Service and the University of California, San Francisco Department Chair. The Clinical Chief maintains working relationships clinical staff, fellows, residents, medical school trainees, and with other clinical departments.

Position Qualifications:

The Chief of the Clinical Service is board certified, has a University faculty appointment, and is a member of the Active Medical Staff at ZSFG.

Major Responsibilities:

The major responsibilities of the Chief of Neurosurgery Clinical Service include the following:

Serving as the leader of the Neurosurgery Clinical Service. Overseeing and directing daily clinical activities including staffing and supervision of clinical staff and trainees. Coordination and scheduling of attending clinical coverage for the service. Participation in performance improvement and patient safety programs.

Serving as the leader of the neurosurgery clinical education at ZSFG. Overseeing and directing the ZSFG/UCSF Neurotrauma Fellowship. Oversight, coordination, and scheduling of trainee clinical education activities.

Performing all other duties and functions spelled out in the ZSFG Medical Staff Bylaws.

San Francisco
Health Network

SAN FRANCISCO DEPARTMENT OF PUBLIC HEALTH

Primary Care Registered Nurse

Standardized Procedures and Protocols

San Francisco Health Network

Primary Care Registered Nurse
Standardized Procedures and Protocols Manual

Table of Contents

Distribution List:

Copy 1:	Primary Care Nurse Manager Offices
Copy 2:	CIDP committee
Electronic copy 3:	Primary Care Director of Nursing
Master copy:	Medical Staff Office

San Francisco Health Network
Primary Care

Standardized Procedures:
Primary Care Registered Nurse

The following Primary Care Nurses have reviewed the standardized procedure and have demonstrated competency as Registered Nurses working in SFHN Primary Care Clinics. They are authorized to practice in any SFHN Primary Care clinic under the Standardized Procedures and Protocols contained in this manual:

RN Name

Joseph Pace MD
Medical Director, SFHN Primaty Care

Date

Philippa Doyle, RN
Nurse Director, SFHN Primary Care

Date

Updated: 9/6/20

San Francisco Health Network
Primary Care

Standardized Procedures:
Primary Care Registered Nurse

Introduction

The following protocols are the policies and guidelines for the care provided to patients at San Francisco Health Network (SFHN) Primary Care (PC) by the Registered Nurse (RN). Since it is impossible to anticipate every clinical situation or presenting chief complaint that may arise, it is expected that Provider of the Day (POD) consultation may be warranted. The RN will consult the POD by using their nursing clinical judgment. In general, the RN shall function within the scope of practice as specified in the State of California Nurse Practice Act. Every patient presenting to Primary Care has ongoing evaluation by a provider (MD/NP/PA) regardless of the initiation of a standardized procedure by the RN. All Standard Procedures are intended for adult patients >18 years, unless otherwise indicated. When the Standardized Procedure is initiated and any diagnostic test is ordered (blood tests, radiologic exams as listed in the procedure), the Primary Care Provider will be listed as the ordering provider.

The Standardized Procedures were developed with assistance from the following:

1. Implementation of Standardized Procedures. Position Statement of the California Nurse Association
2. Standardized Procedure Work Sheet, State of California Board of Registered Nursing, Department of Consumer Affairs.

San Francisco Health Network
Committee on Interdisciplinary Practice

STANDARDIZED PROCEDURE Registered Nurse Management of Chronic Disease in Primary Care

Title: Registered Nurse in Primary Care

I. Purpose of Policy

A. To expedite patient care by initiating evidence-based interventions by Registered Nurses based on patient controlled of chronic disease. These medical staff approved procedures and protocols are intended to be a guide for RNs to initiate basic medication adjustments in Primary Care.

II. Policy Statement

A. It is the policy of Zuckerberg San Francisco General Hospital and Trauma Center that all standardized procedures are developed collaboratively and approved by the Committee on Interdisciplinary Practice (CIDP) whose membership consists of Nurse Practitioners, Physician Assistants, Registered Nurses, Physicians, Administrators and other Affiliated Staff and conform to all 11 steps of the standardized procedure guidelines as specified in Title 16, CCR Section 1474.

B. To outline and define responsibility in performing interventions requiring a physician order in accordance with the California Board of Registered Nursing and the Nursing Practice Act, a copy of the signed procedures will be kept in an operational manual in each primary care clinic, and on file in the credentialing liaison Medical Staff Office.

II. Functions to be performed

The Registered Nurse, as outlined in the Nurse Practice Act, Business and Professions Code Section 2725, is authorized to implement appropriate standardized procedures or changes in treatment regimen after observing signs and symptoms of illness, reactions to treatment, general behavior, or general physical condition, and determining that these exhibit abnormal characteristics. The RN provides interdependent functions that overlap the practice of medicine. These overlapping functions require standardized procedures. These standardized procedures include guidelines stating specific conditions requiring the RN to seek PCP or designee consultation.

III. Circumstances Under Which RN May Perform Function

A. Setting
The Registered Nurse may perform the following standardized procedure functions in any SFHN Primary Care clinic consistent with their experience and training.

B. Scope of Supervision Required

1. The RN is responsible and accountable to the Primary Care Nurse Manager and PCP or provider designee.

2. Overlapping functions are to be performed in areas, which allow for a consulting Provider of the Day (POD) to be available to the RN, by phone or in person, including but not limited to the clinical area.

3. Provider consultation is to be obtained as specified in the protocols and under the following circumstances:

a) Assessment of acute and episodic illness and injuries
b) General evaluation of health status
c) Emergency conditions requiring prompt medical intervention
d) Upon request of nurse or provider
e) Any patient requiring likely hospitalization

4. Every patient who presents to primary care has ongoing evaluation by a provider, regardless of the initiation of a Standardized Procedure by the RN.

III. Requirements for the Registered Nurse

A. Experience and Education

a. Possess an unrestricted California license as a Registered Nurse.
b. Current Basic Life Support certification from an approved American Heart Association provider.
c. Experience using protocol with provider mentor on at least 6 patient cases.

B. Special Training

a. Work experience: Nurse with 6 months experience in primary care clinic
b. Successful completion of Primary Care RN orientation program
c. Successful completion of the protocol specific didactic and posttest

C. Evaluation of the Registered Nurse competence in performance of standardized procedures

a. Initial: At the conclusion of the standardized procedure training the Nurse Manager and Medical Director or designated provider will assess the RN's ability to perform the standardized procedure by:

i. Consecutive and concurrent review of a minimum of 6~~5~~ patient cases for completeness and accuracy. The chart review must include cases where HTN medications were adjusted and cases where no adjustment was necessary.

b. Annual: Nurse Manager, Medical Director or designated provider will evaluate the RN's competence through an annual performance appraisal and skills competency review along with feedback from colleagues, PCP, direct observation, and no fewer

than 3 chart reviews. The chart review must include cases where HTN medications were adjusted and cases where no adjustment was necessary.

c. Follow-up: Areas requiring increased proficiency as determined by the initial or annual evaluation will be re-evaluated by the Nurse Manager, Medical Director, or designated provider at appropriate intervals until acceptable skill level is achieved.

V. Development and Approval of Standardized Procedure

A. Method of Development
Standardized procedures are developed collaboratively by the registered nurses, nurse managers, physicians, and administrators and must conform to the eleven steps of the standardized procedure guidelines as specified in Title 16, CCR Section 1474.

B. Approval
The CIDP, Credentials, Medical Executive, Nursing Executive, and Joint Conference Committees must approve all standardized procedures prior to the implementation.

C. Review Schedule
The standardized procedures will be reviewed every three years by the registered nurses, nurse manager, nurse director and medical director and as practice changes.

D. Revisions
All changes or additions to the standardized procedures are to be approved by the CIDP accompanied by the dated and signed approval sheet

Protocol #1
Assessment and Management of Hypertension

DESCRIPTION:

1. **Function:** This protocol describes the functions, which may be performed by Registered Nurses (RNs) in managing uncomplicated hypertension in adults ages 18 and older.
2. **Definitions and criteria**
   - Hypertension: Patients who have been diagnosed by a provider with hypertension defined by systolic/diastolic blood pressure levels ≥140/90 mmHg
   - Provider: A physician, physician assistant, nurse practitioner, or clinical pharmacist
3. **Blood Pressure Treatment Goal**
   - Generally: <140/90 mmHg
   - Home blood pressure goal: <135/85 mmHg
   - As defined by referring PCP
   - Consult with PCP on goal for patients ≥ 65 years old

CIRCUMSTANCES UNDER WHICH RN MAY PERFORM FUNCTION:

1. **Target Population May Include:**
   - Adults aged 18 and older with known hypertension
   - At the request of the PCP regardless of if exclusion criteria below is met
   - Exclusion Criteria:
     - Age <45 with blood pressure >160/100 mmHg will need PCP assessment prior to nurse management to evaluate for secondary hypertension; *please check in with PCP prior to management*
     - History of myocardial infarction, chronic kidney disease with GFR <45, heart failure with reduced ejection fraction, atrial fibrillation or other arrhythmias, pregnancy or breastfeeding
     - Women of childbearing potential who are reasonably able to get pregnant
     - Hypertension that is treated off of this standardized procedure (uncontrolled hypertension with 3 or more maximized medications of drug classes included in this algorithm: thiazide diuretics, ACE inhibitors or ARBs, and dihydropyridine calcium channel blockers). Patients may be taking other anti-hypertensive medications other than those listed which will not be titrated.
     - Abnormal lab findings of sodium (Na <136 or >145), potassium (K <3.5 or >5.1), or serum creatinine (SCr >1.3) values within the past 6 months (RN can repeat labs if last labs were >6 months ago prior to follow up with PCP or pharmacist)
     - Active stimulant use and not ready to discontinue will need PCP consultation prior to nurse management
     - Unstable hyperthyroidism

FUNCTIONS TO BE PERFORMED

1. **Patient Education:**
   - Lifestyle modifications
     - Physical activity: (30 minutes, ≥4 times per week)
     - Weight management (goal BMI <25 kg/m^2)
     - Reducing dietary sodium (1.8-2.4 gram sodium daily)
     - Limiting alcohol consumption (≤1 drink for women, or ≤2 drinks for men per day)
     - Low-fat, high fruit, vegetable, and whole grain diet (DASH diet)
     - Smoking cessation
     - Advise patients to avoid drugs that can induce/aggravate hypertension- decongestants (Sudafed), OTC diet pills, sometimes NSAIDS or non-cardioprotective doses of Aspirin

(i.e. taken for pain – doses of >325 mg).

- Self-monitoring blood pressure and documentation with the use of preferred home blood pressure monitor:
    - Instruct patient to take 2 BP readings (1-2 minutes apart) upon waking and another 2 BP readings at bedtime, for five to seven days during the second week following medication adjustment
    - Educate on proper technique (refer to toolkit)
    - Calibrate machine (have patient bring machine to clinic and compare reading on home machine to in-clinic machine)
    - Home blood pressure goal <135/85 mmHg
- Women of child-bearing age: Reminder that ACE inhibitors and ARBs (e.g. Benazepril and Losartan) are contraindicated in pregnancy. Women with unexpected pregnancy on ACE inhibitors or ARBs are to discontinue it and notify their provider.
- Importance and techniques for medication adherence and pharmacy navigation (e.g. mediset, phone alarm, auto refills)

2. Procedure:

- Provider responsibilities prior to nurse management
    - Diagnose hypertension and identify BP goal
    - Request RN disease management visit for recheck of BP and medication titration according to protocol.
- RN subjective assessment
    - Home BP machine validation, BP checking technique
    - Side effects from medications (see Appendix A)
    - Symptoms of end organ damage with elevated blood pressure (160-179 systolic and/or 100-109 diastolic): headache, chest pain, blurry vision
    - Symptoms of hypotension: dizziness, lightheadedness, fatigue
    - Adherence with medications and lifestyle modification
    - Allergies or intolerances to blood pressure medications previously taken
    - Pregnancy risk (use of contraception, sexual activity, etc.)
- RN objective assessment
    - In-clinic BP, repeated with accurate positioning if elevated
    - Self-monitored blood pressure trends: Average systolic BP readings to obtain a mean systolic measure. Average diastolic BP readings to obtain a mean diastolic measure.
    - Standing BP (remain supine for 5 minutes, then recheck BP 2-5 minutes later) should be measured in all elderly patients (≥65 years old), any age with sitting systolic BP <110, or patients who complain of hypotension side effects (orthostatic dizziness, syncope, fatigue, weakness). If there is a 20 mmHg systolic drop or 10 mmHg diastolic drop, patient is having orthostatic hypotension. Consider fall risks and a higher blood pressure goal; consult provider and adjust medications accordingly.
    - Serum potassium, sodium, and creatinine results done 2 weeks after initiation or dose titration of ACE inhibitors, ARBs, or thiazide diuretic (see Appendix A)
- Assessment/Plan
    - Blood pressure 140-159 systolic and/or 90-99 diastolic
        - Follow medication titration steps that include initiating and titrating ACE inhibitor/ARB, thiazide diuretic, and dihydropyridine calcium channel blocker (see Appendix B) The registered nurse will order and transmit medications to the pharmacy through the EMR and send to provider for co-signature.
            - Patient is adherent to medication regimen
            - Labs are within normal limits
            - Self-monitored blood pressure average is within 10 mmHg of in-clinic blood pressure reading
        - Monitoring: See Appendix A

- Blood pressure 160-179 systolic and/or 100-109 diastolic with no symptoms of end organ damage
    - Notify Primary Care Provider or Provider of the Day
    - Follow medication titration steps as explained above
- Symptomatic hypotension (dizziness) or asymptomatic with systolic blood pressure <90 mmHg
    - Consult with provider.
- Refer to provider for evaluation, and do not release the patient:
    - Blood pressure 160-179 systolic and/or 100-109 diastolic with symptoms of end organ damage
    - Blood pressure $\geq$ 180 systolic and/or 110 diastolic
    - Symptomatic hypotension, asymptomatic with systolic BP <100, or orthostatic hypotension
- Note differences between home BP readings and in clinic BP readings
    - If home machine is reading >10 mmHg incorrectly from in-clinic machine, patient will need to call manufacturer for new machine
    - If home machine is reading accurately, and home BP is >135/85 mmHg, treat home BP (masked hypertension)
    - If home machine is reading accurately, and home BP is <135/85 mmHg but in clinic BP is elevated, treat home BP (white coat hypertension)
- Review allergy list, screen for potential contraindications or precautions
- Identify barriers to medication adherence
- Intolerance to medication
    - Consult provider of the day to determine if intolerance is due to a side effect, allergic reaction (rash, shortness of breath, swelling of the face), or other cause
    - If discontinuing medication due to intolerance, document in medical record allergy list and progress note based on provider determination of cause
- Pregnancy
    - Discontinue ACE inhibitor or ARB and notify PCP. Refer to OB GYN for management.
- Any abnormal labs (Na <136 or >145, K <3.5 or >5.1, or SCr >1.3)
    - Consult with pharmacist or provider

- Patient follow up
    - After every medication initiation or titration:
        - Recheck BP every 2 weeks
        - Draw and review labs as indicated in Appendix A
        - Titrate medications per protocol (see Appendix B)
    - If home BP machine is reading accurately, follow up can take place via telehealth
    - Once patient has reached BP goal, patient will no longer require follow up through this protocol and will be returned back to their Primary Care Provider for continued follow up as needed.
        - Patient to continue to check home blood pressure
        - Refill current blood pressure medications for 1 year supply (90 days with 3 refills)
    - If the patient achieves maximum dosage of medications used in this protocol, and still does not achieve goals of BP less than 140/90, the patient will be returned back to their Primary Care Provider for continued follow up within 4 weeks.

3. **Documentation:** Epic Smart Phrase (see Appendix C)

Appendix A: Medication Details

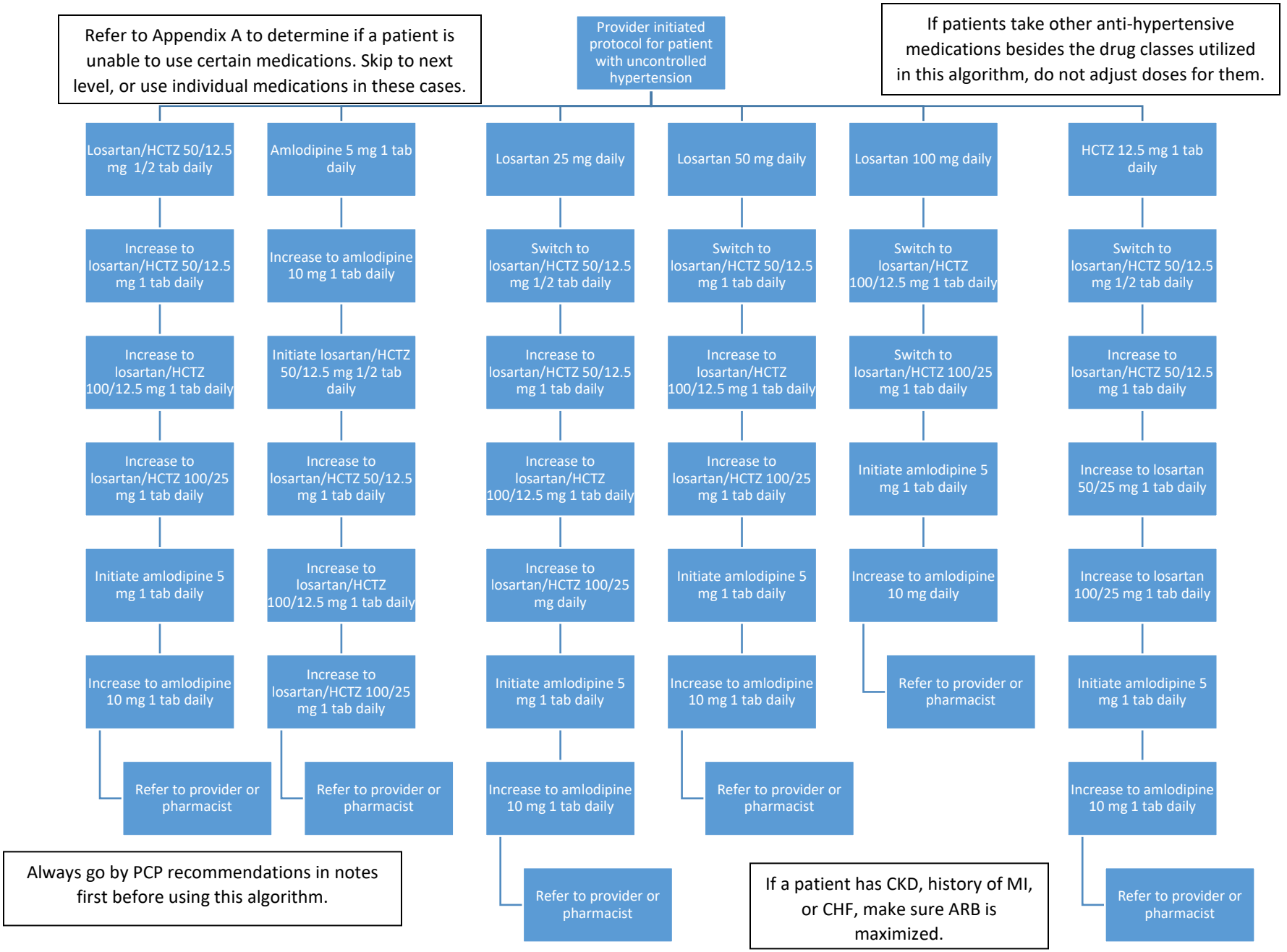
Drug	Dosing	Contraindications (do not initiate)	Precautions (review with provider or pharmacist before initiating)	Adverse effects needing dose adjustment or counseling	Adverse effects needing discontinuation	Monitoring parameters	Notes
Hydrochlorothiazide – HCTZ (thiazide diuretic) Chlorthalidone (more potent)	25 mg (start 12.5 mg for age ≥60) 12.5 mg – 25 mg	• History of allergic reaction with prior thiazide diuretic use	• Hypercalcemia or hyperparathyroism • Gout • Cardiac arrhythmias • Already taking a diuretic (e.g. furosemide) • Hyponatremia, hypokalemia, hypomagnesemia • GFR <30 – thiazides are not effective	Dizziness, excessive urination, skin photosensitivity Serum creatinine elevation 30-50%	Allergic reaction Hypokalemia (K^+ <3.5), Hyponatremia (Na <135) Serum creatinine elevation >50% Gout attack	Recheck BP in 2 weeks after initiation or dose increase Check BMP (basic metabolic panel) 2 weeks after initiation or dose increase	Suggest dosing in the morning to avoid excessive urination overnight (unless a patient prefers this); maximize last if patient experiencing urinary side effects (if patient is ok with this)
Losartan (Angiotensin Receptor Blocker – ARB, ends in "-SARTAN")	25 mg (equivalent to benazepril 10 mg) – 100 mg (equivalent to benazepril 40 mg)	• Pregnancy • Bilateral renal artery stenosis • History of angioedema or allergic reaction with prior ACE inhibitor or ARB use • Already taking an ACE inhibitor	• Potassium ≥ 5.1 mEq/L, check with PCP prior to starting • Women of childbearing age, counsel pt to contact clinic immediately if she becomes or plans on becoming pregnant due to teratogenic effects in later trimesters	Dizziness, hypotension Serum creatinine elevation 30-50%	Allergic reaction Angioedema Hyperkalemia (K^+ ≥ 5.1) Serum creatinine elevation >50%	Recheck BP in 2 weeks after initiation or dose increase Check BMP (basic metabolic panel) 2 weeks after initiation or dose increase	Preferred in patients who have diabetes or CKD; maximize this dose first for these patients.

Appendix A: Medication Details

Benazepril or Lisinopril (more potent) (Angiotensin-converting enzyme inhibitor – ACE inhibitor)	10 mg – 40 mg	• Pregnancy • Bilateral renal artery stenosis • History of angioedema or allergic reaction with prior ACE inhibitor or ARB use • Already taking an ARB (angiotensin receptor blocker suffix "-sartan")	• Potassium ≥ 5.1 mEq/L, check with PCP prior to starting • Women of childbearing age, counsel pt to contact clinic immediately if she becomes or plans on becoming pregnant due to teratogenic effects	Dry nonproductive cough (change to ARB), dizziness, hypotension Serum creatinine elevation 30-50%	Allergic reaction Angioedema Hyperkalemia (K^+ ≥ 5.1) Serum creatinine elevation >50%	Recheck BP in 2 weeks after initiation or dose increase Check BMP (basic metabolic panel) 2 weeks after initiation or dose increase	Preferred in patients who have diabetes with proteinuria or CKD; maximize this dose first for these patients. If patient experiences cough, discontinue ACE inhibitor and start ARB.
Amlodipine (calcium-channel blocker, ends in "-DIPINE")	5 mg – 10 mg (start 2.5 mg for age ≥60)	• History of allergic reaction with prior calcium-channel blocker use • Use in combination with simvastatin >20 mg	• Severe CHF • Severe aortic stenosis • Lower extremity edema (may worsen)	Peripheral edema (dose dependent), dizziness, headache, flushing, constipation	Allergic reaction	Recheck BP in 2 weeks after initiation or dose increase	Peripheral edema is not clinically significant, and not necessary to discontinue Do not need lab monitoring

*If a patient is taking any of the following medications, refer to pharmacist: Lithium, potassium, carbamazepine

Appendix B: Medication Treatment Algorithm



Appendix B: Medication Treatment Algorithm

Equivalent Doses

ACE inhibitors and ARBs

Losartan 25 mg	Valsartan 80 mg	Benazepril 10 mg	Lisinopril 10 mg
Losartan 50 mg	Valsartan 160 mg	Benazepril 20 mg	Lisinopril 20 mg
Losartan 100 mg	Valsartan 320 mg	Benazepril 40 mg	Lisinopril 40 mg

Calcium channel blockers

Amlodipine 5 mg	Felodipine 5 mg
Amlodipine 10 mg	Felodipine 10 mg

Thiazide diuretics

HCTZ 12.5 mg	--
HCTZ 25 mg	Chlorthalidone 12.5 mg
HCTZ 50 mg	Chlorthalidone 25 mg

Appendix C: RN Hypertension Visit Smart Phrase

SUBJECTIVE

.interpassist
.name is a .language-speaking .age .genderidentity here for a blood pressure follow-up visit.

Self-measured blood pressure
Has home BP monitor? {Yes/no}
Checks BP at home? {Yes/no}
Recent home measured values/dates are: ***

Medication adherence and side effects
.name reports missing *** doses of blood pressure medications in the past 7 days, and generally reports {excellent/good/poor} adherence
The patient is currently experiencing these side effects: {dizziness, cough, leg swelling, urinary frequency, none, ***}

The patient was taking these anti-hypertensive medications before the visit: ***

Other relevant medications/substances being used: {stimulants; NSAIDs; none; ***}

Diet and exercise
The patient {does/does not} have a heart healthy diet and {is/is not} meeting exercise goals.

OBJECTIVE

Vitals
.resufast {labcrea; potassium; sodium; albcrea; last 3}

ASSESSMENT & PLAN

.name is a .language-speaking .age .genderidentity here for a blood pressure follow-up visit.

.probdiag

Please use .dphhtnrn dotphrase in your problem-based charting

Goal blood pressure is {<140/90 (default); PCP designated a different goal: ***
Clinic BP {is/is not} at goal
Home BP {is/is not} at goal
Electrolytes {are/are not} normal
Creatinine {are/are not} normal

Medication plan (medication name and dose)
Continue: ***

Appendix C: RN Hypertension Visit Smart Phrase

Change in dose: ***
Stop: ***

The current DPH hypertension algorithm can be found here.