ChiroArmor

COMPLIANCE RE-IMAGINED

Preventing Clinical Errors in Practice

Scott Munsterman, DC, FICC, CPCO

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Brief Bio

Dr. Scott Munsterman is an acknowledged expert on the transforming model of health care delivery and compliance with a commitment to the promotion and advancement of the chiropractic profession. Dr. Munsterman is founder and CEO of Best Practices Academy, a clinical improvement organization providing focused leadership to bring practices into compliance with regulatory standards, equip them to improve clinical outcomes, and integrate into the transformed care delivery system. Dr. Scott works with ClinicArmor and BPA's EHR partnered with iPatientCare.

Dr. Munsterman is a graduate of Northwestern Health Sciences University, where he has served as Vice-Chair of the Board of Trustees and on the President's Cabinet as Chief of Care Delivery. He was awarded Chiropractor of the Year in South Dakota and the Fellow of the International College of Chiropractors (FICC). He is a professional compliance officer. Dr. Munsterman served two terms as Mayor of the City of Brookings and three consecutive terms in the South Dakota House of Representatives, where he chaired the House Health and Human Services Committee and also chaired the Legislative Planning Committee. He is author of the books "A Vision for South Dakota", "Care Delivery and Chiropractic: An Opportunity Waiting", and "Unfinished Business".

However, he states his greatest accomplishment has been his five daughters and six grandchildren - with more success to come.

Disclaimer

The topics taught here are for the sole purpose of the chiropractic profession, any transference to other healthcare disciplines are at the risk of the individual's discretion. The presenter is an investor in the Best Practices Academy and ChiroArmor/ClinicArmor. The Best Practices Academy and ChiroArmor/ClinicArmor denies responsibility or liability for any erroneous opinions, analysis, and coding misunderstandings on behalf of individuals undergoing this course.

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No legal advice is given in this program, and we encourage you to refer any such questions to your healthcare attorney.

https://www.menti.com/alik7otwxz5f

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What is Patient Safety?

First do no harm.

Office of Inspector General
Report in Brief
May 2022, OEI-06-18-00400

25% of Medicare patients experience patient harm during their hospital stay.

Patient harm includes adverse events and temporary harm events.

12 percent of patients experienced adverse events, which are events that led to longer hospital stays, **permanent harm**, life-saving intervention, or death.

13 percent of patients experienced **temporary harm** events, which required intervention but did not cause lasting harm, prolong hospital stays, or require life-sustaining measures.

Physician-reviewers determined that 43 percent of the harm events could have been prevented if patients had been provided better care.

56% of harm events were not preventable and occurred even though providers followed proper procedures…

Terminology

Patient safety: the avoidance, prevention and amelioration of adverse outcomes or injuries stemming from the process of health care.

National Patient Safety Foundation. Agenda for research and development in patient safety.
http://www.ihi.org/Topics/PatientSafety/Pages/default.aspx

What is an Adverse Outcome or Event?

An **unexpected and undesired incident** directly associated with the care or services provided to the patient; an incident that occurs during the process of providing health care and **results in patient injury or death; or an adverse outcome for a patient, including an injury or complication**.

Preventing Clinical Errors

A Clinical Error is an **act of omission or commission in planning or execution** that contributes or could contribute to an unintended result.

Defining medical error. Ethan D. Grober, John M.A. Bohnen Can J Surg. 2005 Feb; 48(1): 39–44. PMCID: PMC3211566
https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3211566/

Preventable Harm

The Institute for Healthcare Improvement defines preventable medical harm as **"unintended physical injury resulting from or contributed to by medical care (including the absence of indicated medical treatment)"**, that requires additional monitoring, treatment or hospitalization, or that results in death."

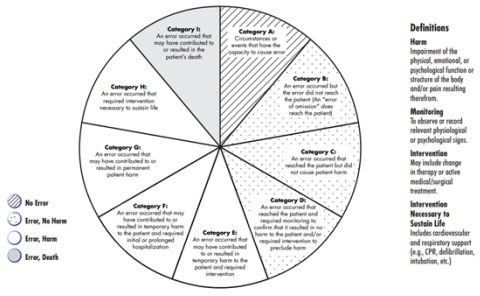
Recent studies (as of 2017) of medical errors have estimated errors may account for as many as **251,000 deaths annually** in the United States (U.S)., making medical errors the **third leading cause of death**

Anderson JG, Abrahamson K. Your Health Care May Kill You: Medical Errors. Stud Health Technol Inform. 2017;234:13-17. PMID: 28186008.

Causes of Errors

Adverse Events vs Near Misses
Human vs System
Commission vs Omission

NCC MERP Index for Categorizing Medication Errors



Most errors are the result of various causes and predisposing conditions.

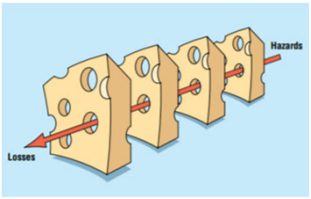
In other words, there are a variety of factors involved that can lead to or cause a clinical error or adverse event – or a near miss.

Swiss Cheese Model

Reason J. Human error: Models and management. BMJ 2000; 320:768-70

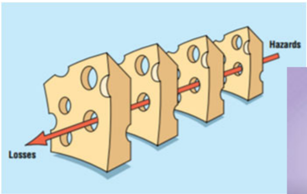
Holes in the Defense Layers

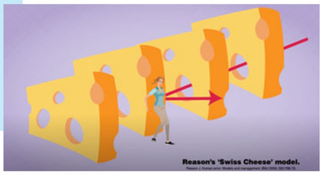
A bad outcome occurs only when the holes in many defense layers momentarily line up to permit a trajectory of an accident opportunity—bringing hazards into damaging contact with patients.



https://www.youtube.com/watch?v=7Y8HupZ2e0s&feature=youtu.be

It just takes one thing to block the incident…





Reasons for Holes in the Defense Layers

Active Failures are the unsafe acts committed by people who are in direct contact with the patient or system. They take a variety of forms: slips, lapses, fumbles, mistakes, and procedural violations.

Latent Conditions have two kinds of adverse effects:

- they can translate into error provoking conditions within the workplace (i.e. time pressure, understaffing, inadequate equipment, fatigue, inexperience) and
- they can create long-lasting holes or weaknesses in the defenses (i.e. lack of training for staff, improper therapeutic or billing practices, lack of compliance policy).

Types of Clinical Errors

- Diagnostic
- Treatment
- Preventive
- Other

National Academies of Sciences, Engineering, and Medicine. 2015. *Improving diagnosis in health care*. Washington, DC: The National Academies Press.

Diagnostic Error

"the failure to establish an accurate and timely explanation of the patient's health problem(s) or communicate that explanation to the patient."

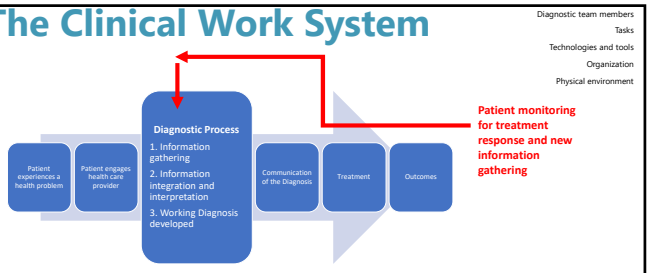
National Academies of Sciences, Engineering, and Medicine. 2015. *Improving diagnosis in health care*. Washington, DC: The National Academies Press.

57% of all diagnostic failures occur in ambulatory care settings.

Diagnostic Process: 7 Stages

1. Access and presentation
2. History taking/collection
3. Physical exam
4. Testing
5. Assessment (differential diagnosis)
6. Care planning/referral
7. Follow-up/Outcome Assessment

The Clinical Work System



Methods for Detecting Failure Across the Diagnostic Process

Work System/Environmental Factors
Common Points of Failure

Work System/Environmental Factors which may produce failure in the Diagnostic Process

1. Information gathering and integration/communication (amount, accuracy, completeness, appropriateness)
2. Technology (EHR is the right fit, full adoption into workflows)
3. Organization and roles of providers and staff
4. Physical space and layout

Common Points of Failure in the Diagnostic Process

1. Patient delay in seeking care
2. Failure to gather enough information
3. Failure to integrate the information in medical decision-making process
4. Failure to establish an accurate diagnosis
5. Failure to communicate an explanation/diagnosis to the patient

Standardization

Monitor and adjust to changes, make improvements, build-in check systems.

Key Areas to Improve Diagnostic Performance

- Clinical reasoning
- Teamwork
- Communication with patients, their families, and other health care professionals
- Appropriate use of diagnostic tests and the application of these results on subsequent decision making
- Use of health IT

Clinical Reasoning

Clinical Reasoning:

Understand Heuristics and Biases that Influence Decision Making

- **Anchoring:** tendency to "lock" onto features of the initial presentation and failure to adjust this initial impression in light of new information.
- **Affective Bias:** letting our emotions, feelings, and biases affect our judgement.
- **Availability Bias**: tendency to more easily recall certain things that have been seen recently or that are common or impressed upon us.
- **Context Errors:** instances where we misinterpret the situation, leading to an erroneous conclusion.
- **Search Satisficing:** premature closure resulting from accepting the first answer that comes along that explains the facts without considering whether there might be a different or better solution.

Dual Process Theory

Dual Process Theory and Diagnosis

- **System 1**: When a patient presents, the initial data include **typical symptoms and signs of disease** which are recognized. System 1 processing is fast.
- **System 2**: When the symptoms and signs are **atypical and do not become apparent to align with a specific disease pattern**. Repetition of data to System 2 may eventually be recognized as a new pattern and then processed through System 1. System 2 processing is slow, analytical decision making and can override System 1 processing.

Expert clinicians posses better developed mental models of diseases, which support more reliable pattern matching (System 1). Novice clinicians are more likely to rely on analytical reasoning throughout the diagnostic process as compared to experienced clinicians.

What about our staff and the role they can play in preventing diagnostic errors?

Teamwork

- Gathering information is essential
- It takes a team to monitor and screen patients on an ongoing basis…
- Clarify the roles of each team member within the practice and their responsibilities
- Assess their competence within their roles.
- Professionalism
- Clinical Conscientiousness and Situational Awareness

Communication

Providers and staff collaborating with their experience with the patient and communication efforts.

Use of Diagnostic Tests

What is clinically indicated based on standard of care?

Use of Health IT

Has the practice fully adopted an EHR which meets the compliance and patient documentation, clinical decision making needs of the type of patient care delivered?

Treatment

Is/was the procedure being performed correctly?

Is equipment (therapeutic modalities, etc.) functioning properly?

Preventive: Ongoing Assessment

Ask yourself these questions…

Patient Assessment:

Key Triggers to Identify Patients At-Risk for Adverse Events

- Is the patient taking medication?
- Has the patient recently had surgery or another medical intervention?
- Does the patient show any signs of a change in mental status?
- Does the patient demonstrate any unsteadiness in walking, standing, or movement – such as sitting to standing?
- Has the patient had any falls within the past 12 months?
- Is the patient allergic or have a sensitivity to anything?
- Does the patient have multiple comorbidities and/or a poor health status?

Patient Assessment:
Key Triggers to Identify Patients At-Risk for Adverse Events

- What has changed since the last visit for the patient (monitoring response)?
- Any new information to integrate into current working diagnosis (contraindications, red flags ruled-out)?
- Clinical reasoning and treatment response reflect certainty in diagnosis?
- Communication with patient reflects engagement?

What are the defense layers in the practice?

1. Emergency identification/response procedures are in place.
2. Performing vital signs.
3. Properly diagnosis a patient's condition.
4. Identifying contraindications for care and red flags.
5. Perform manipulation procedure properly.
6. Safely apply therapeutic procedures/activities on each visit.
7. Close oversight/response of patient monitoring during care.
8. Close oversight of visitors/children during patient's visit.
9. Awareness of external activities within and outside of the facility.
10. Doctor/Staff rested and devote 100% present time consciousness.

Other

- Equipment failure
- Communication failure
- Failure in systems process, workflows, etc.

If an incident does occur…

- The incident should not be kept secret. All incidents need to be documented and discussed with your professional liability insurer – and then with other providers and staff.
- The doctor should talk to the patient (if recommended by your professional liability insurer):
  - Discuss what has been learned
  - Provide an honest expression of regret or apology
  - Can often decrease the risk of legal action

How can we address patient safety in our practice?

The "Walk"

Welcome
Ask
Listen
Knowledge

Screening Patients:

Why are you here today?
Has there been a change in how you are feeling since your last visit?
Have you seen anyone else about your health?
Do you have questions about…
Are you worried about your health?

Situational Awareness:
No change or worsening
Observation of patient's mental status, behaviors, or characteristics

Has there been a "Significant Event"?

Patient Safety Questionnaire

Patient Safety Questionnaire

Please answer the following questions as it pertains to your visit today – we will use this information as we strive to help you!

Yes	No	
☐	☐	I have felt unsteady and off balance when I walk, stand or move.
☐	☐	I have recently had a hospitalization or surgery since my last visit.
☐	☐	There has been a change in my condition since my last visit.
☐	☐	Something happened to me since my last visit (i.e., accident, fall, etc.)
☐	☐	I have had a recent change in my medication or have a new allergy.
☐	☐	I have fallen within the last 6 months.
☐	☐	My mental processing or thinking doesn't seem very clear or is different to me.
☐	☐	I need to talk to the doctor about my progress.
☐	☐	I am concerned about the treatment I am getting.
☐	☐	I have questions I need to ask the doctor today.

Does the patient's clinical presentation require urgent need for evaluation and/or care?

The doctor must be informed of any new information about the patient that has been related to staff.

Stay Connected to Established Patients who are under a treatment plan.

Following the treatment plan, evidence-informed care guidelines, and the patient's response to care…

Screening Patients

Monitor changes since the last visit

No change or worsening

Observation of patient's behaviors and characteristics

Has there been a "Significant Event"?

Does the patient's clinical presentation require urgent need for evaluation and/or care?

The doctor must be informed of any new information about the patient that has been related to staff.

Stay Connected to Established Patients who are under a treatment plan.

Following the treatment plan, evidence-informed care guidelines, and the patient's response to care...

Patient Safety is First and Foremost

There should be an ongoing discussion regarding strategy towards preventing clinical errors and enhancing patient safety.

Most Common Patient Safety Issues

- Falls
- Equipment malfunction
- Infection prevention procedures
- Faulty patient perception of an incident occurring stemming from lack of communicating to the patient what to expect from treatment
- Underlying medical emergency/red flag (i.e., cardiovascular, cerebrovascular, fracture, infection, cancer)

Recognizing Patient Safety Incidents

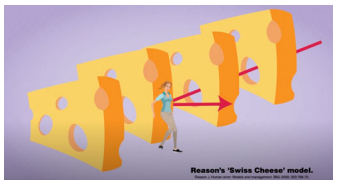
- Patient complains of pain after treatment
- Modality malfunctioning or not being applied properly
- Patient nearly falling
- Patient safety incidents range from "No Harm" to "Unnecessary Harm"

Underlying Causes

- Patient OTC drug use and interactions increase risk of falls
- Provider/therapist fatigue and stress can lead to miscommunications
- Short staffing and increased workload

Follow Safe Practice Procedures

You and your staff must be the "**one thing**"…



Scope of Safety Issues

In Chiropractic…

Professional Boundaries in Clinical Practice

Patient Relationships

Professional boundaries are limits which protect a worker's professional power and their patient's vulnerability. Successful and ethical working relationships are based on a clear understanding of what the workers' role is – and just as importantly – what their role isn't.

Definition of Professional Boundary

https://mcarthur.com.au/media/1429/understanding-professional-boundaries.pdf

When does Clinical Integrity become compromised?

THE ROLE	THE LINE	THE IMPACT
Professional Service Social Interaction		
Mutual Friendship	BOUNDARY CROSSING	CONSCIENTIOUSNESS OF BOUNDARY VIOLATION PENDING
Close Friendship	BOUNDARY VIOLATION	PERSONAL GAIN
Family		EMOTIONAL DEPENDENCY
Intimacy		VIEWED AS EXPLOITATION IF PROFESSIONAL ROLE IS CONTINUED

What is our role as a health care professional?

- Perform clinical duties and provide care to a patient
- Protect the patient from harm
- Meet reasonable expectations of the patient
  - Respect and dignity
  - Provide competent care
  - Practice ethically
  - Uphold confidentiality
  - Comply with all laws regulating your practice and behaviors
- Honesty in all patient interactions
- Equitable and fair treatment of all patients regardless of their race, religion, socioeconomic status, etc.

Has your allegiance shifted away from your focus in your professional role to a more personal role whereby you are seeking and benefiting personally from the relationship?

Commonly Misdiagnosed Conditions

The "Big Three": misdiagnosed cancers (37.8%), vascular events, like stroke and heart attack (22.8%), and infections (13.5%).

Cancers

Lung, breast, colorectal, prostate, and skin cancers

Vascular events

Stroke, heart attack, venous thromboembolism (blood clots in the legs and lungs), aortic aneurysm and rupture (dissection), arterial thromboembolism (a blockage of the blood supply to internal organs)

Infections

Sepsis, meningitis, encephalitis, spinal infection, pneumonia, and endocarditis (a heart infection)

Newman-Toker, D. E., Schaffer, A. C., Yu-Moe, C., Nassery, N., Saber Tehrani, A. S., Clemens, G. D., Wang, Z., Zhu, Y., Fanai, M., & Siegal, D. (2019). Serious misdiagnosis-related harms in malpractice claims: The "Big Three" – vascular events, infections, and cancers. *Diagnosis*, *6*(3), 227-240. doi: https://doi.org/10.1515/dx-2019-0018

What are the various factors that may set us up for risk of a clinical error in practice?

Evaluation Process

Intake Forms

Accurate information from the patient is imperative to gather for your doctor's clinical decision making.

Reasons for Diagnostic Error

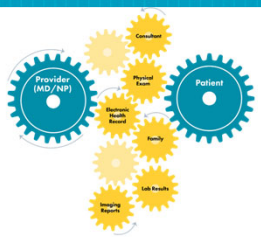
Patients are interrupted when telling their illness story to providers within **11-18** seconds.[2,3]

This breakdown in collaborative communication may result in assumptions and premature closure.[4]

These breakdowns lead to diagnostic error in about ***1 of every 20*** patients you see.[5]

AHRQ Agency for Healthcare Research and Quality
Advancing Excellence in Health Care ● www.ahrq.gov

How Does 60 Seconds To Improve Diagnostic Safety Work?



Tips for Effective Listening

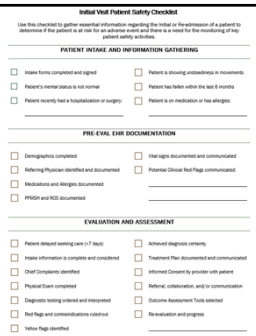
- Listen for meaning.
- Pay attention to body language.
- Cultivate empathy.
- Avoid making judgments.
- Look into others' eyes when they're speaking.
- Pay attention to the feelings associated with the words.

How can we improve diagnostic safety?

What can patients do?	What can clinicians do?
✓ **Tell their story** fully and completely and clearly	✓ **Listen** to patients
✓ **Provide accurate information** about their symptoms	✓ **Support patients** in effectively sharing their symptoms.
✓ **Speak up** if they feel they have not been heard	✓ **Ask patients** what they think is going on
✓ **Ask questions** to clarify the information shared	✓ **Conduct a thorough history** and physical examination
✓ **Use a checklist** of tests, symptoms, concerns, or physicians consulted	✓ **Set** a visit agenda
	✓ **Know patients** and their history, and read prior notes
	✓ **Integrate "pre-work"** for patients (e.g. symptoms; history of present illness; labs)

HOW IT WILL WORK IN YOUR PRACTICE?

Initial Visit Screening



Initial Visit Patient Safety Checklist

Use this checklist to gather essential information regarding the initial or Re-admission of a patient to determine if the patient is at risk for an adverse event and there is a need for the monitoring of key patient safety activities.

PATIENT INTAKE AND INFORMATION GATHERING

- ☐ Intake forms completed and signed
- ☐ Patient's mental status is not normal
- ☐ Patient recently had a hospitalization or surgery:
- ☐ Patient is showing unsteadiness in movements
- ☐ Patient has fallen within the last 6 months
- ☐ Patient is on medication or has allergies:

PRE-EVAL EHR DOCUMENTATION

- ☐ Demographics completed
- ☐ Referring Physician identified and documented
- ☐ Medications and Allergies documented
- ☐ PFMSH and ROS documented
- ☐ Vital signs documented and communicated
- ☐ Potential Clinical Red Flags communicated:

EVALUATION AND ASSESSMENT

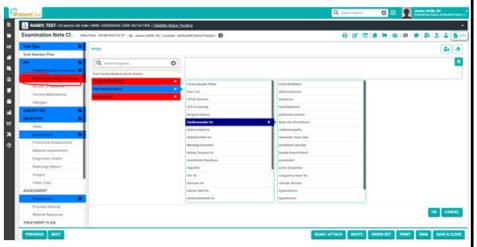
- ☐ Patient delayed seeking care (>7 days)
- ☐ Intake information is complete and considered
- ☐ Chief Complaints identified
- ☐ Physical Exam completed
- ☐ Diagnostic testing ordered and interpreted
- ☐ Red flags and contraindications ruled out
- ☐ Yellow flags identified
- ☐ Achieved diagnostic certainty
- ☐ Treatment Plan documented and communicated
- ☐ Informed Consent by provider with patient
- ☐ Referral, collaboration, and/or communication
- ☐ Outcome Assessment Tools selected
- ☐ Re-evaluation and progress

History of Present Illness

Past Family Medical Social History

Review of Systems

Chief Complaints



Physical Comorbidities

Past Medical, Family and Social History

- Prior Major Illnesses and Injuries
- Prior Surgeries
- Prior Hospitalizations
- Current Medications
- Allergies
- Age Appropriate Immunization Status
- Age Appropriate Feeding/Dietary Status
- Marital Status
- Current Employment
- Occupational History
- Alcohol and Tobacco Usage
- Level of Education
- Sexual History
- Ask if there are any members of the patient's family who have had illnesses with features similar to the patient's.
- Determine the health or cause of death of the patient's parents and siblings.
- Establish whether there is a history of heart disease, high blood pressure, cancer, tuberculosis, stroke, diabetes, arthritic conditions, thyroid disease, kidney disease, asthma, blood diseases, sexually transmitted diseases, or any familial diseases.

Review of Systems

1. Constitutional
2. Eyes
3. Ears, nose, mouth, throat
4. Cardiovascular
5. Respiratory
6. Gastrointestinal
7. Genitourinary
8. Musculoskeletal
9. Integumentary
10. Neurological
11. Psychiatric
12. Endocrine
13. Hematologic/Lymphatic
14. Allergic/Immunologic

CVA Screening

Has the patient reported any of the following risk factors or symptoms in the medical history?

Is there nausea, vomiting, sensory disturbances (hearing, visual), cramps, weakness, headache, dizziness, and/or loss of consciousness?

Risk Factors:

- Dizziness
- Unsteadiness
- Giddiness
- Vertigo
- Sudden severe pain in the side of the head and/or neck, which is different from any pain the patient has had before
- Age <45 years
- Migraine
- Connective Tissue Disease
- Recent infection (i.e. upper respiratory)

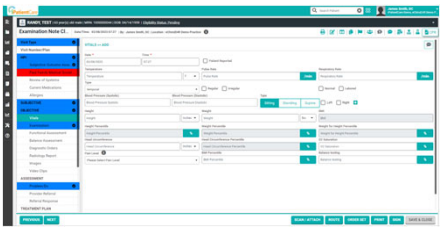
What are Vital Signs?

These are measurements of the inner workings of the human body and how vital organs, such as the heart and lungs, are functioning.

INITIAL/PROGRESS VISIT EXAMS

VITAL SIGNS

- HEIGHT
- WEIGHT
- BMI
- BLOOD PRESSURE
- HEART RATE
- RESPIRATION
- BODY TEMPERATURE



- Height
- Weight
  - Abnormal weight loss or gain
  - Rapid change in height
- BMI (calculated from height/weight)
- Temperature
  - Signs of systemic infection or inflammation in the presence of a fever (temp > 101.4 F or sustained temp > 100.4 F. COVID-19 >100F).
- Respirations
  - Varies with age, normal reference range is 16-20 breaths/minute.
- Pulse
  - A newborn or infant can have a heart rate of about 130-150 beats per minute.
  - A toddler's heart will beat about 100-120 times per minute,
  - An older child's heartbeat is around 90-110 beats per minute, adolescents around 80-100 beats per minute, and
  - Adults pulse rate is anywhere between 50 and 80 beats per minute.

- **Normal**

  <120 Systolic<80 diastolic medication not needed, lifestyle recommendations

- **Pre-hypertensive**

  120-139 systolic 80-89 diastolic, medication not needed, lifestyle modification (90% chance at 65 to develop stage 1 and stage 2, lifestyle changes will decrease risk to almost 0)

- **Stage 1 hypertension**

  140-159 systolic or 90-99 diastolic, lifestyle modifications given, medications recommended starting with thiazide-type diuretics (consider others if ineffective)

- **Stage 2 hypertension**

  >160 systolic or >100 diastolic, lifestyle modifications given, two-drug combination therapy recommended.

Notes on Blood Pressure

- Maximum Cuff Pressure - When the baseline blood pressure is already known or hypertension is not suspected, it is acceptable in adults to inflate the cuff to 200 mmHg and go directly to auscultating the blood pressure. Be aware that there could be an **auscultory gap** (a silent interval between the true systolic and diastolic pressures).
- Bell or Diaphragm? - Even though the Korotkoff sounds are low frequency and should be heard better with the bell, it is often difficult to apply the bell properly in the anticubital fold. For this reason, it is common practice to use the diaphragm when taking blood pressure.
- Systolic Pressure - In situations where auscultation is not possible, you can determine systolic blood pressure by palpation alone. Deflate the cuff until you feel the radial or brachial pulse return. The pressure by auscultation would be approximately 10 mmHg higher. Record the pressure indicating it was taken by palpation (60/palp).
- Diastolic Pressure - If there is more than 10 mmHg difference between the muffling and the

Blood Pressure

- Higher blood pressures are normal during exertion or other stress. Systolic blood pressures below 80 may be a sign of serious illness or shock.
- Blood pressure should be taken in both arms on the first encounter. If there is more than 10 mmHg difference between the two arms, use the arm with the higher reading for subsequent measurements.
- It is frequently helpful to retake the blood pressure near the end of the visit. Earlier pressures may be higher due to the "white coat" effect.
- Always recheck "unexpected" blood pressures yourself.

Pulse, or Heart rate, is the number of times a heart beats per minute (bpm). Heart rates vary by person, and a normal pulse can range between 60 to 100 beats per minute.

Pulse (Heart Rate)

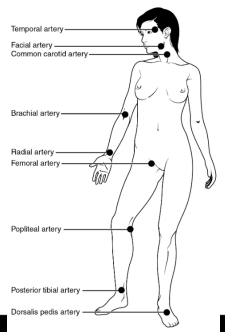
Pulse

Pulse

Pulse indicates heart rate and it is measured clinically to provide clues to a patient's state of health. It is recorded as beats per minute. Both the rate and the strength of the pulse are important clinically. A high or irregular pulse rate can be caused by physical activity or other temporary factors, but it may also indicate a heart condition.

The pulse strength indicates the strength of ventricular contraction and cardiac output. If the pulse is strong, then systolic pressure is high. If it is weak, systolic pressure has fallen, and medical intervention may be warranted.

Pulse can be palpated manually by placing the tips of the fingers across an artery that runs close to the body surface and pressing lightly. While this procedure is normally performed using the radial artery in the wrist or the common carotid artery in the neck, any superficial artery that can be palpated may be used.



Pulse

- Note whether the pulse is regular or irregular:
  - **Regular** - evenly spaced beats, may vary slightly with respiration
  - **Regularly Irregular** - regular pattern overall with "skipped" beats
  - **Irregularly Irregular** - chaotic, no real pattern, very difficult to measure rate accurately
- Count the pulse for 15 seconds and multiply by 4.
- Count for a full minute if the pulse is irregular.
- Record the rate and rhythm.

Staff must report any arrythmias, irregularities in the pulse rate and pace to the doctor.

Pulse

Pulse/Blood Pressure in Children

In children, pulse and blood pressure vary with the age. The following table should serve as a rough guide:

Average Pulse and Blood Pressure in Normal Children Age

	Birth	6mo	1yr	2yr	6yr	8yr	10yr
Pulse	140	130	115	110	103	100	95
Systolic	70	90	90	92	95	100	105

Respiration rate, sometimes referred to as breathing rate, is the number of breaths taken per minute. This measurement is always taken when the individual is at rest.

A single respiration count is equal to the chest rising (inhalation) and falling (exhalation) once. The normal range for an adult is 12 to 28 respirations per minute.

Respiration Rate

Respiration

https://youtu.be/wWAqkbD28ul

- Best done immediately after taking the patient's pulse. Do **not** announce that you are measuring respirations.
- Without letting go of the patient's wrist begin to observe the patient's breathing. Is it normal or labored?
- Count breaths for 15 seconds and multiply this number by 4 to yield the breaths per minute.
- In adults, normal resting respiratory rate is between 12-28 breaths/minute. Rapid respiration is called tachypnea.

Temperature is considered normal at 98.6 degrees F (37 degrees C), although anything between 97.6 degrees F (36.4 degrees C) to 99.6 degrees F (37.5 degrees C) is acceptable.

A temperature over 100.4 degrees F (38 degrees C) indicates a fever caused by illness or injury. Hypothermia (low temperature) occurs when the body temperature dips below 95 degrees F (35 degrees C).

Body Temperature

Temperature

Temperature can be measured in several different ways:

- **Oral** with a glass, paper, or electronic thermometer (normal 98.6F/37C)
- **Axillary** with a glass or electronic thermometer (normal 97.6F/36.3C)
- **Rectal** or "core" with a glass or electronic thermometer (normal 99.6F/37.7C)
- **Aural** (the ear) with an electronic thermometer (normal 99.6F/37.7C)

Of these, axillary is the least and rectal is the most accurate.

Vital Signs Recap
Average Healthy Adults (at rest)

- Blood pressure: 90/60 mm Hg to 120/80 mm Hg
- Respiration: 12 to 18 breaths per minute
- Pulse: 60 to 100 beats per minute
- Temperature: 97.8°F to 99.1°F (36.5°C to 37.3°C)/average 98.6°F (37°C)

Observation

- Observe the patient as they move thru the office, get in and out of the chair, actions while you are performing their history.
- Document what you see:
  - Walks with a limp
  - Difficulty getting out of chair
  - Appears to be in acute pain
  - Medical emergency

Examination

- Observation
  - Gait Analysis
  - Postural
  - Function
- Palpation
- Range of Motion
- Orthopedic Tests
- Neurologic Evaluation
- Vascular Evaluation
- Visceral Evaluation
- X-ray/Lab Evaluation
- External Imaging or Specialty Referral

Be aware of patient's at-risk.

Recognize indications and contraindications for common modalities.

Know Red and Yellow Flags, Contraindications, etc.

At-Risk Patient Population

Red Flags, Yellow Flags, CoMorbidities, and Risk Factors

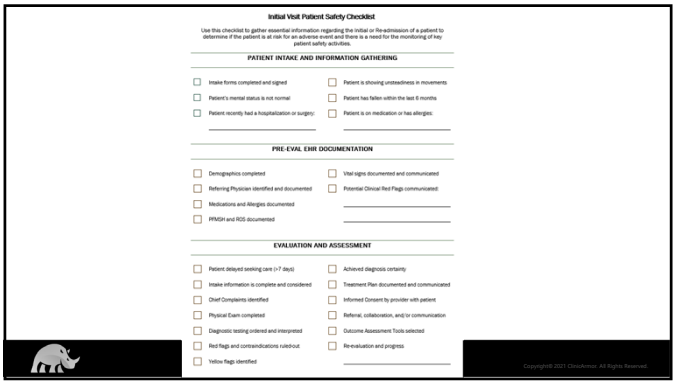
A serious condition that must be recognized through the history and exam process that typically requires referral to another health care provider

Clinical Red Flags

Red Flags

Immediate Referral

1. Fracture/dislocation
   - Significant Trauma
   - Osteoporosis
   - Pathologic Fracture
2. Cancer/tumor
   - Night-time Pain
   - Severe Progressive
   - Unexplained Weight Loss
   - Prior History
3. Infection
   - Elevated Temperature
   - Night Sweats
   - Intravenous Drug Abuse
   - Immunosuppression
4. Vertebrobasilar involvement
5. Instability (including degenerative, surgical or rheumatoid etiologies)
6. Progressive scoliosis
7. Severe osteoporosis
8. Severe hypertension
9. Vertebrobasilar involvement
10. Visceral pathology
11. Inflammatory Arthritides
12. Cauda Equina Syndrome (loss of bladder/bowel function)



Initial Visit Patient Safety Checklist

Use this checklist to gather essential information regarding the initial or Re-admission of a patient to determine if the patient is at risk for an adverse event and there is a need for the monitoring of key patient safety activities.

PATIENT INTAKE AND INFORMATION GATHERING

- ☐ Intake forms completed and signed
- ☐ Patient's mental status is not normal
- ☐ Patient recently had a hospitalization or surgery:
- ☐ Patient is showing unsteadiness in movements
- ☐ Patient has fallen within the last 6 months
- ☐ Patient is on medication or has allergies:

PRE-EVAL EHR DOCUMENTATION

- ☐ Demographics completed
- ☐ Referring Physician identified and documented
- ☐ Medications and Allergies documented
- ☐ PFMSH and ROS documented
- ☐ Vital signs documented and communicated
- ☐ Potential Clinical Red Flags communicated:

EVALUATION AND ASSESSMENT

- ☐ Patient delayed seeking care (>7 days)
- ☐ Intake information is complete and considered
- ☐ Chief Complaints identified
- ☐ Physical Exam completed
- ☐ Diagnostic testing ordered and interpreted
- ☐ Red flags and contraindications ruled-out
- ☐ Yellow flags identified
- ☐ Achieved diagnosis certainty
- ☐ Treatment Plan documented and communicated
- ☐ Informed Consent by provider with patient
- ☐ Referral, collaboration, and/or communication
- ☐ Outcome Assessment Tools selected
- ☐ Re-evaluation and progress

Treatment

Evidence-Informed Practice

The Evidence-based Medicine Triad
Source: Florida State University, College of Medicine.

Standard of Care

How does your state licensing board view YOUR responsibilities as a clinician, within the interest of public safety?

Clinical Competencies

Efficacious Treatment Approaches

Competency of Doctor and Staff in delivery of services

Are you and your staff attending regular clinical education training?

Do you provide hands-on training for staff?

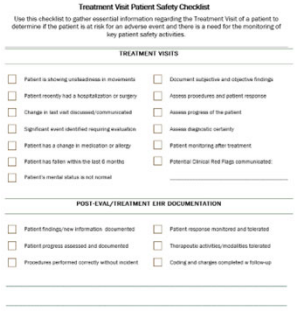
Are you using FDA approved devices?

Does your treatment follow guidelines?

Are you monitoring and documenting the progress of your patients?

Questions to Ask

Treatment Visit Screening



Treatment Visit Patient Safety Checklist

Use this checklist to gather essential information regarding the Treatment Visit of a patient to determine if the patient is at risk for an adverse event and there is a need for the monitoring of key patient safety activities.

TREATMENT VISITS

- ☐ Patient is showing unsteadiness in movements
- ☐ Patient recently had a hospitalization or surgery
- ☐ Change in last visit discussed/communicated
- ☐ Significant event identified requiring evaluation
- ☐ Patient has a change in medication or allergy
- ☐ Patient has fallen within the last 6 months
- ☐ Patient's mental status is not normal
- ☐ Document subjective and objective findings
- ☐ Assess procedures and patient response
- ☐ Assess progress of the patient
- ☐ Assess diagnostic certainty
- ☐ Patient monitoring after treatment
- ☐ Potential Clinical Red Flags communicated:

POST-EVAL/TREATMENT EHR DOCUMENTATION

- ☐ Patient findings/new information documented
- ☐ Patient progress assessed and documented
- ☐ Procedures performed correctly without incident
- ☐ Patient response monitored and tolerated
- ☐ Therapeutic activities/modalities tolerated
- ☐ Coding and charges completed w follow-up

Misinformed Treatment Plans

Communicating to patients regarding the treatment plan and expectations of care process.

Care Management Considerations

Transitional Care (Hand-off)

Environment/Falls

Medication Errors/Reconciliation

Team/Communication

Dry Needling/Acupuncture Adverse Effects

The act of puncturing the skin comes with a number of predictable adverse events (bruising or bleeding, pain during or following treatment) which commonly occur and are mild in nature.

This may be considered normal side effects of treatment. However, from the patient's perspective they may be considered adverse particularly if the patient has not been educated about the risks associated with their dry needling/acupuncture technique.

Manipulation/Manual Therapy

Potential Risks

- ✓ Temporary soreness or increased symptoms or pain It is not uncommon for patients to experience temporary soreness or increased symptoms or pain after the first few treatments.
- ✓ Dizziness, nausea, flushing These symptoms are relatively rare. It is important to notify the doctor if you experience these symptoms during or after your care.
- ✓ Fractures When patients have underlying conditions that weaken bones, like osteoporosis, they may be susceptible to fracture. It is important to notify your doctor if you have been diagnosed with a bone weakening disease or condition. If your doctor detects any such condition while you are under care, you will be informed, and your treatment plan will be modified to minimize risk of fracture.
- ✓ Disc herniation or prolapse Spinal disc conditions like bulges or herniations may worsen even with chiropractic care. It is important to notify your doctor if symptoms change or worsen.
- ✓ Stroke According to the most recent research, there is no evidence of excess risk of stroke associated with chiropractic care. Regarding neck pain and headache symptoms, there is an association between stroke and visits to all provider-types, including primary care medical visits, which may occur before or during the provider visit.
- ✓ Other risks associated with chiropractic treatment include rare burns from physiotherapy devices that produce heat.
- ✓ Bruising Instrument assisted soft tissue manipulation may result in temporary soreness or bruising.

Chiropractic Clinical Assistant Competency

- Formal training completion with testing
- Understand supervision rules for your state
- Patient response
- Doctor communication - orders

Recognizing and Preventing Safety Hazards

1. Therapy Modalities
2. Hydraulic/Spring-loaded adjusting tables
3. Sharps (i.e. needles) and Sharps Containers
4. Theraband/Exercise Stations

Therapeutic Modalities and Table Equipment

- Are all therapeutic modalities and equipment (both, company and employee-owned) used by staff, providers and workforce members at their workplace in good condition?
- Are all of the operating manuals and instructions available to staff, providers and workforce members for all therapeutic modalities and equipment?
- Are staff, providers and workforce members made aware of the hazards caused by faulty or improperly used modalities and equipment?
- Are all cord-connected, electrically operated modalities and equipment effectively grounded or of the approved double insulated type?
- Are children monitored at all times and parent/guardian warned of crush risk or safety issue around modalties?

Therapeutic Modalities and Table Equipment

- Are all therapeutic modalities and equipment turned off after use and remain off prior to patient use?
- Do patients know what to expect prior to the application of the modality?
- Do patients know what to expect as potential temporary symptoms or reactions to the application of the therapy?

Theraband Exercise Station

Eye Protection

Re-Cap

Clinical Conscientiousness and Awareness

Maintaining your clinical mindset

The "Walk"

Welcome
Ask
Listen
Knowledge

Screening Patients:

Why are you here today?
Has there been a change in how you are feeling since your last visit?
Have you seen anyone else about your health?
Do you have questions about…
Are you worried about your health?

Situational Awareness:
No change or worsening
Observation of patient's mental status, behaviors, or characteristics

Has there been a "Significant Event"?

Patient Safety Questionnaire

Patient Safety Questionnaire

Please answer the following questions as it pertains to your visit today – we will use this information as we strive to help you!

Yes	No	
☐	☐	I have felt unsteady and off balance when I walk, stand or move.
☐	☐	I have recently had a hospitalization or surgery since my last visit.
☐	☐	There has been a change in my condition since my last visit.
☐	☐	Something happened to me since my last visit (i.e., accident, fall, etc.)
☐	☐	I have had a recent change in my medication or have a new allergy.
☐	☐	I have fallen within the last 6 months.
☐	☐	My mental processing or thinking doesn't seem very clear or is different to me.
☐	☐	I need to talk to the doctor about my progress.
☐	☐	I am concerned about the treatment I am getting.
☐	☐	I have questions I need to ask the doctor today.

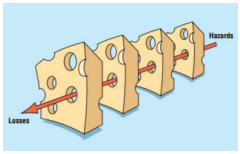
Does the patient's clinical presentation require urgent need for evaluation and/or care?

The doctor must be informed of any new information about the patient that has been related to staff.

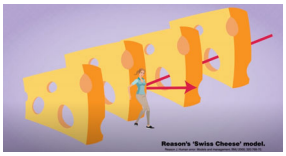
Stay Connected to Established Patients who are under a treatment plan.

Following the treatment plan, evidence-informed care guidelines, and the patient's response to care…

It just takes one thing to block the incident…



https://www.youtube.com/watch?v=7Y8Hup22eOs&feature=youtu.be



Thank you!

Scott Munsterman, DC, FICC, CPCO