University of Arkansas Concussion Management Plan

The University of Arkansas is committed to protecting the health of its NCAA student-athletes and providing a safe environment for participation in athletics. In accordance with NCAA legislation, this Concussion Management Plan outlines institutional practices for the management of sport-related concussions, including:

1. Definition of sport-related concussion
2. Independent medical care
3. Preseason education
4. Pre-participation assessment
5. Recognition and diagnosis
6. Initial suspected concussion evaluation
7. Post-concussion management
8. Return-to-learn management
9. Return-to-sport management
10. Reducing head impact exposure
11. Written compliance certification

Concussion Management Team

A multi-disciplinary team will implement the protocols below. Each concussion is unique, and not all team members may be involved in every case. The head sports medicine physician will direct referrals and stepwise management.

Key Roles:

- **Head Sports Medicine Physician (Dr. Ramon Ylanan):**
    - Final authority on all concussions
    - Supervises stepwise progression
    - Authorizes return-to-learn and return-to-play

- **Sports Medicine Physicians (Team-Assigned):**
    - Diagnose and treat concussions
    - Communicate with Dr. Ylanan for final clearance
- **Team Orthopedic Physicians:**
    - May diagnose concussions
    - Defer final clearance to Dr. Ylanan
- **Nurse Practitioner (Valerie Whitson):**
    - Recognizes concussions
    - Refers athletes to physicians
    - Defers final clearance to Dr. Ylanan
- **Athletic Training Staff (Team-Assigned):**
    - Recognizes and treats concussions
    - Refers athletes to physicians
    - Defers final clearance to Dr. Ylanan
- **Neuropsychologist (Dr. Sarah Downing):** Consults on IMPACT testing and rehabilitation
- **Neurosurgeon (Dr. Larry Armstrong):** Consults on complicated brain/spinal injuries
- **Academic Counselor/Learning Specialist (Team-Assigned):** Coordinates return-to-learn, ADAAA compliance
- **Director of Clinical and Sport Psychology (Chris Bader, Ph.D.):** Cognitive and academic support
- **Faculty Athletics Representative (Paul Adams):** Advises on complex academic cases

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Definition of Sport-Related Concussion

According to the 6th International Conference on Concussion in Sport:

A concussion is a traumatic brain injury caused by a blow to the head, neck, or body transmitting an impulsive force to the brain. Symptoms may present immediately or evolve over minutes/hours and typically resolve within days, but may be prolonged. Concussions do not usually show abnormalities on standard structural neuroimaging. Clinical symptoms may or may not involve loss of consciousness.

Independent Medical Care

Team physicians and athletic trainers have autonomous authority over medical management and return-to-activity decisions, including concussions, per NCAA legislation.

Preseason Education

- All student-athletes receive concussion education annually and must acknowledge understanding and acceptance of responsibility to report injuries (Appendix A).
- Symptoms to report immediately include, but are not limited to:
    - Vomiting, dizziness, headache, nausea, imbalance
    - Sensitivity to light/noise, drowsiness, fatigue
    - Difficulty remembering/concentrating, sadness, nervousness
    - Numbness/tingling, loss of consciousness
- Coaches, athletic trainers, and staff receive concussion education and acknowledge understanding (Appendices B–F).

Pre-Participation Assessment

- Baseline testing is required for all athletes prior to participation, including:
    - Concussion/brain injury history
    - Neurologic and mental health evaluation
    - Balance, reaction time, cognitive assessments (SWAY, ImPACT, C3 Logix)

- Baseline testing informs post-injury evaluation, but clinical judgment determines final decisions. Mid-year or post-injury reassessment may be performed for athletes with prior concussions.

Recognition and Diagnosis

- Medical personnel trained in concussion management will be **on-site** for all NCAA varsity competitions in contact/collision sports and **available** at practices.
- Sports include: Baseball, Men's & Women's Basketball, Diving, Football, Gymnastics, Pole Vault, Women's Soccer, Softball, Volleyball.
- Signs requiring immediate removal from activity:
    - Loss of consciousness, seizure, tonic posturing
    - Ataxia, poor balance, confusion, amnesia, behavioral changes

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Initial Suspected Concussion Evaluation

- Immediate assessment includes:
    - Red flag evaluation (neck pain, seizure, double vision, weakness, vomiting, severe headache, Glasgow Coma Scale <15, skull deformity)
    - Clinical assessment (rule out cervical spine trauma, skull fracture, intracranial bleed)
    - Symptom evaluation (C3, SWAY, or brief checklist)
    - Physical and neurological exam (eye tracking, finger-to-nose test)
    - Cognitive assessment (C3, SWAY, Maddox questions, Serial 3s/7s)
    - Balance exam (C3, SWAY, or MBESS)
- Athletes suspected of concussion **must be removed from practice/competition**. Same-day return is rare and requires evaluation by medical personnel.

Post-Concussion Management

- Serial evaluations continue throughout recovery:

    - Symptom assessment, memory, concentration
    - Orthostatic vitals, cervical spine, neurological evaluation
    - Balance/tandem gait, modified VOMS
- Subacute phase may include: mental health screening, sleep assessment, graded aerobic testing
- Light physical activity and reduced screen time may begin 24–48 hours post-injury
- Persistent symptoms (>4 weeks) trigger additional evaluation (vestibular, ocular, cognitive, autonomic, or mental health concerns)

Return-to-Learn Management

- Full return-to-learn typically occurs within 10 days
- Academic modifications may be required in first 1–2 weeks
- Athletic trainers and academic counselors coordinate accommodations per ADAAA
- Final authority resides with the head sports medicine physician

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Return-to-Sport Management

Stepwise progression supervised by athletic trainer or team physician:

1. Symptom-limited daily activities
2. Aerobic exercise with light resistance
    - 2a: Light (≤55% max HR)
    - 2b: Moderate (≤70% max HR)
3. Individual sport-specific activity without increased head impact risk
4. Non-contact practice with progressive resistance
5. Unrestricted practice/training
6. Unrestricted return-to-sport

- Progression lasts ≥24 hours per step
- Symptom recurrence triggers regression and physician review

- Clinical judgment guides final return-to-sport decision

Reducing Head Impact Exposure

- Adhere to ethical standards; prohibit using equipment as a weapon
- Limit contact in practices; emphasize proper technique
- Use certified safety equipment
- Encourage neuromuscular warm-up programs
- Follow sport-specific rules limiting contact frequency and duration

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Perfect! Here's a clear, visual **flowchart concept** for the University of Arkansas concussion **Return-to-Learn and Return-to-Play progression**. I'll describe it first, then I can generate an actual graphic you can use.

Concussion Recovery Flowchart (UA Razorbacks)

Step 0: Concussion Occurs / Suspected Concussion

- Athlete removed from play immediately
- Initial evaluation by athletic trainer or team physician
- Red flags? → Emergency Action Plan → Hospital

Step 1: Post-Concussion Acute Phase

- Symptom monitoring (C3/SWAY/ImPACT)
- Cognitive rest and light daily activity as tolerated
- Reduce screen exposure for 24–48 hours
- Academic rest: no classroom activity same day

Step 2: Return-to-Learn (RTL) Stage

- Gradual reintroduction of cognitive activity under supervision

- Academic modifications as needed (per ADAAA)
- Coordination: Athletic Trainer + Academic Counselor/Learning Specialist
- Progression guided by symptom resolution

Step 3: Return-to-Sport (RTS) Stage

Step	Activity	Notes
1	Symptom-limited daily activities	Baseline activities at home
2a	Light aerobic exercise	≤55% max HR, no symptom exacerbation
2b	Moderate aerobic exercise	≤70% max HR, continue monitoring
3	Individual sport-specific activity	Avoid head impact exposure
4	Non-contact practice	Progressive resistance training
5	Unrestricted practice/training	Full practice, no contact restrictions
6	Full return-to-sport	Final clearance by Head Sports Medicine Physician

- **Important:** Each step ≥24 hours; revert if symptoms worsen

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Step 4: Complicated or Prolonged Symptoms (>4 weeks)

- Multidisciplinary re-evaluation: neuropsychology, vestibular therapy, sleep, mental health, cognitive testing
- Adjust RTL/RTS plan accordingly

Step 5: Clearance

- Final authority: Head Sports Medicine Physician
- Documentation: Progression completed, symptoms resolved
- Return to full academics and athletics

CONCUSSION RECOVERY

STEP 0
CONCUSSION OCCURS

Rey-cont monitoring

Red flags?

Hospital

STEP 1
POST-CONCUSSION ACUTE PHASE

- Symptom-monitoring (C3/SWAY/ImPACT)
- Cognitive rest and light daily activity as tolerated
- Reduce screen exposure for 24-45 hours

STEP 2
RETURN-TO-LEARN (RTL) STAGE

- Gradual reintreduction of cognitive activity under supervision
- Academic modifications as needed (por ADAAA)
- Coordination: Athiletic Trainer + Academic Counselor/Learning Spe-
- Progression guided by symptom resolution

STEP 3
RETURN-TO-SPORT (RTS) STAGE

- Multidisogtary re-evaluation neuropsychology
  vestibular therapy
- Sleep, mental health cognitive testing

STEP 4
CLEARANCE

- Final authority: Progression completed symptoms resolved
- Return to full academics ad athletics