



Submission to NSW Legislative Council Standing Committee on Social Issues: Inquiry into emerging combat sports and comparable activities

Executive Summary

The Australasian College of Sport and Exercise Physicians (ACSEP) does not endorse or promote participation in emerging combat activities such as ‘bareknuckle boxing’, ‘power slap’ or other ‘collision’ activities. This submission is intended solely to promote harm minimisation and participant safety in activities that are occurring or may be subject to regulation. ACSEP supports a regulatory framework that prioritises participant safety, harm minimisation and appropriate medical oversight across combat sports and emerging activities involving intentional or repeated head and bodily impacts.

These emerging combat activities are distinct from established amateur, professional and Olympic combat sports in their history, culture, formalisation and risk profiles. Whilst these activities should not be equated with existing combat sports, similar health regulations should be applied for participant safety, including pre-participation screening, medical oversight, emergency care, concussion management and health education.

ACSEP acknowledges that the *Combat Sports Amendment Act 2024* strengthened the regulation of combat sports in NSW, including accreditation of ringside medical practitioners, compulsory concussion education and automatic suspensions following knockouts. However, safety could be further improved through a review of medical suspension requirements following concussion, changes to weight declaration processes, making permits conditional on event medical planning and improving access to follow-up specialist care. Protections also do not extend to unsanctioned events and other activities outside the current regulatory framework.

Regulatory approaches in other jurisdictions demonstrate practical measures that could strengthen participant safety in NSW. These include longer minimum medical suspension periods, graduated return-to-contact protocols, medical oversight of weight cutting, minimum requirements for ringside medical staffing and comprehensive emergency planning.

ACSEP recommends that the NSW Legislative Council adopts a risk-based approach to protect participant safety in combat sports and emerging activities. Reforms options include:

- mandatory pre- and post- contest medical assessments and annual medical examinations;
- minimum medical staffing and emergency planning requirements for events;
- regulated ring-side medical standards;
- mandatory suspension periods following concussion, applying to both competition and full-contact sparring, with a graduated return protocol and medical clearance;
- stronger safeguards and medical oversight of weight cutting;
- access to affordable post-concussion follow-up and specialist care; and
- a central record of contests, knockouts, stoppages and medical suspensions that follows participants across codes and jurisdictions.

The risks associated with weight cutting and cumulative head impacts further demonstrate the need for a comprehensive approach to participant health.

Overall, ACSEP considers that activities presenting comparable risks should be subject to comparable minimum standards of participant protection, regardless of whether they are formally classified as a “combat sport”.

About ACSEP

The Australasian College of Sport and Exercise Physicians (ACSEP) is the professional body representing Sport and Exercise Physicians (SEP) and the specialty of Sport and Exercise Medicine (SEM) in Australia and Aotearoa New Zealand. ACSEP is the only organisation accredited by the Australian Medical Council to provide medical doctors with a specialist training program in Sport and Exercise Medicine.

Sport and Exercise Physicians and trainees work in multi-disciplinary teams and provide diagnosis and non-surgical management for a range of acute and chronic musculoskeletal conditions. SEP manage medical conditions in the active population, including concussion, cardiac and respiratory conditions. The SEM scope of practice also includes physical activity prescription to manage chronic conditions such as osteoarthritis, heart disease, diabetes, mental illness, obesity and cancer.

ACSEP welcomes the opportunity to provide a submission to the NSW Legislative Council Standing Committee on Social Issues inquiry into emerging combat sports and comparable activities. This submission seeks to promote harm minimisation and should not be interpreted as an endorsement of these activities.

Key definitions in combat sports

When managing concussion in most contact sports the rule is to "recognise and remove", a player with suspected concussion comes off immediately and does not return, however that model is not feasible in combat sports. Instead, combat sports manage risk through outcome rules and the officials' judgement:

Knockout (KO)

The definition varies by sport. In boxing and kickboxing it is a failure to "beat the count", meaning to rise and be fit to continue before the referee counts to ten after a knockdown from head or body blows. The referee can also waive the count if the participant clearly cannot get up, for example with loss of consciousness. In Mixed Martial Arts (MMA), a KO is a stoppage because of loss of consciousness from a head strike.

Technical knockout (TKO)

The referee stops the bout because the participant is no longer intelligently defending themselves or is taking excessive punishment. The medical practitioner can also stop it for injury (a laceration, eye injury, orthopaedic injury or concussion). Some rule sets use a three-knockdowns-in-a-round rule, and a TKO also follows when the corner throws in the towel.

Retired (RTD)

The participant or their corner declines to continue during the rest between rounds.

These categories do not map neatly onto concussion. A KO from a body shot may involve no concussion. A TKO does not always mean concussion. Concussion also occurs in bouts with no KO or TKO at all, including fights that go the distance.¹

Response to Terms of Reference

(a) whether emerging activities including 'collision' sports, 'bareknuckle boxing' and 'power slap' should be characterised and regulated as 'combat sport', or another category for the purposes of ensuring appropriate participant protections and public safety,

Emerging 'collision' activities including 'bareknuckle boxing' and 'power slap' are distinct from established amateur, professional and Olympic combat sports; in history, culture, formalisation and safety risk. Whilst these activities should not be equated with existing combat sports, it is crucial that similar health regulations be applied for the safety of participants, including, but not limited to, pre-participation health screening, medical policies (e.g. emergency care, weigh-ins), provision and staffing of qualified healthcare professionals, and health education.

(b) whether the Combat Sports Act 2013 remains suitable to provide a regulatory framework for emerging activities including 'collision' sports, 'bareknuckle boxing', 'power slap', underground fight clubs and other comparable activities,

ACSEP acknowledges that the *Combat Sports Amendment Act 2024* strengthened the regulation of combat sports in NSW. Amendments including the accreditation of ringside medical practitioners, compulsory concussion education, a duty to stop the contest on a "Category 1" head injury sign and automatic suspensions following knockouts broadly align with the Association of Ringside Physicians (ARP) Consensus Statement.¹

However, to improve overall safety across all combat sports, there are gaps in this legislation that warrant further consideration:

1. *Medical suspensions*

Automatic suspensions are in place for knockouts; however, concussion can occur without a knockout or technical knockout. The only mandatory stand-down after a professional bout in NSW is five clear days.² Victoria requires a minimum 15-day non-fight period after every contest.³

2. *Sparring*

Suspensions should explicitly cover full-contact sparring as well as competition, in line with the ARP consensus.¹ A large share of cumulative head impact happens in training, which the Act does not cover.

3. *Return-to-fight protocol*

Following concussion, a graduated return-to-fight protocol should be mandated with final clearance from a medical practitioner with concussion expertise.¹

4. *Weight cutting*

This is not directly regulated.

5. *Event Medical Planning*

Emergency planning should be a mandatory permit condition. This should cover paramedic attendance, the nearest hospital with neurosurgical facilities, the extraction route and the number of medical personnel in attendance.

6. *Structural limitations of the Act*

The Act protects participants only at permitted events. Its protections do not reach unsanctioned events, backyard fights or events held outside of NSW.

(c) regulatory approaches adopted in other Australian and international jurisdictions,

The following are examples of regulatory approaches implemented, or under consideration, in other domestic and international jurisdictions to enhance safety in combat sports:

Domestic

Victoria

- The Victorian Professional Boxing and Combat Sports Board uses standardised pre- and post-contest medical forms and has implemented a compliance checklist for inspectors' use at events;
- A minimum 15-day non-fight period after every contest, which can be extended on medical advice or depending on the result;
- Following a diagnosed or suspected concussion (not limited to knockouts), the participant is suspended from competition for at least 37 days and at least 30 days from contact sparring, increasing with successive concussions;
- Medical clearance must be lodged with the Board before returning to contact training or sparring, and published graduated return plans (37, 60 and 90 days).³

Western Australia

The Combat Sports Commission's *Regulatory Proposal: Combat Sports Legislation* includes:

- Requiring Medical Practitioners to conduct weight assessments.
- Giving powers to the pre-contest medical examining practitioner and the commission to disallow contestants from competing based on weight loss concerns/history.
- Registering ringside medical practitioners as an industry participant on a fee free basis.
- Extending pre-contest weigh-ins to no more than 36 hours before a contest to allow for alignment with approved sanctioned body rules.⁴

Queensland and Northern Territory

These jurisdictions do not have dedicated, legislated combat sports regulator. This creates a risk of regulatory arbitrage for NSW combatants and promoters. It also means suspensions cannot be enforced across borders.

International

Nevada, United State of America

Nevada regulated slap fighting as unarmed combat in 2022. However, video analyses of professional slap fighting report very high rates of observable concussion signs, despite the fights occurring in a regulated setting.^{5,6}

United Kingdom

The British Boxing Board of Control requires the following:

- Boxers must complete an MRI scan when they apply for a license and annually when they renew their license.
- Two Board Medical Officers at ringside for every contest, they check both boxers at the end of every contest. The second medical officer must be a medical practitioner.
- At least one ambulance and paramedic team at every tournament, with telephone link to a neurosurgical unit.⁷

International Amateur Bodies

These organisations also have medical requirements such as blood-borne virus serology, stricter protective equipment and shorter rounds for some divisions, and guidance on when lacerations should stop a contest.⁸

(d) any legislative and regulatory reforms required to improve participant safety, strengthen harm minimisation measures and ensure appropriate oversight,

To improve safety and strengthen harm minimisation in combat sports, the following reforms should be considered:

Prior to the event

Annual Medical Examination

Including structured history and examination, blood-borne virus serology and hepatitis B vaccination status (as currently required in NSW). The British Boxing Board of Control's approach of baseline brain MRI for professionals and periodic repeat imaging could also be considered.⁷

Pre-fight medical examination for every participant

Unlike team sports, the medical practitioner usually has no prior knowledge of the participant, and many participants do not have a regular GP. This would give the attending medical practitioner an opportunity to assess cardiovascular risk factors, concussion history, weight cutting measures the participant may have undertaken, and any cuts or concealed injuries.

Event medical plan as a permit condition

The medical plan should cover the nearest hospital with neurosurgical facilities, the person responsible for calling the ambulance, venue exits, pre-event briefing with security and a rehearsed extraction of an unconscious participant from the ring.

During the contest

Minimum of two medical personnel at every contest

At least one should be competent in Advanced Life Support. The primary doctor should be positioned with a clear line of sight and direct access to the ring steps. No contest should start without the primary medical officer at ringside.

Mandatory ringside medical equipment

This should include:

- Airway kit and oxygen
- An AED (if the venue does not have one)
- A spinal or long board
- Suture and laceration kits.

On-site ambulance

An ambulance should be on-site for professional events and for any permitted emerging high-risk activity. This is mandatory in the United Kingdom.⁷

Clear roles and authority for the medical practitioner during the contest

Including a formal means for the medical practitioner to stop the contest (e.g. air horn) with the medical practitioner's decision on the participant's fitness to continue being final.

After the contest

Mandatory post-fight medical examination for every combatant

This should occur regardless of the result and there should be sanctions in place for participants who do not attend, such as withheld payment.

Monitoring for intracranial haemorrhage

Subdural haematoma is the most common intracranial haemorrhage seen in boxing. It classically presents with a progressive decline in conscious level or affect. Extradural haemorrhage can present after a lucid interval, including on the way home. Every concussed participant should receive written concussion advice and be released to a responsible adult.

Mandatory medical suspension periods

Following the ARP consensus and the USA Boxing framework, the minimum suspensions from competition and sparring are:

- 90 days after a knockout with loss of consciousness
- 60 days after a knockout without a loss of consciousness
- 30 days after a technical knockout from head blows.¹

Every contest should also carry a universal non-fight period, because concussion is assumed. Suspected concussion diagnosed at the post-fight medical, regardless of the result of the fight, should trigger its own suspension. At a minimum, NSW should adopt the Victorian model: a 15-day non-fight period after every contest, and concussion-triggered suspensions from both competition and sparring.³ These should apply to sparring as well as competition, with a graduated return and medical clearance.¹ Other injuries should also carry stand-downs, for example a minimum of 28 days for lacerations needing closure.

Access to follow-up care

Formal Sport Concussion Assessment Tool (SCAT) testing at every professional event is often not feasible because of time and resources. The fallback is a concussion screen on the post-fight form plus written advice, with follow-up by a Sport and Exercise Physician. Many participants cannot afford or access that follow-up. A funded or subsidised post-concussion review pathway would help to close this gap.

Weight cutting

Weight cutting is prevalent in combat sports, with 60-80% of combat athletes reporting they engage in this practice.⁹ Acute methods include:

- Deliberate dehydration using saunas, sauna suits and salt baths;
- Diuretics and laxatives;
- Extreme calorie restriction.

Dehydration has been proposed to increase vulnerability to traumatic brain injury, by reducing brain volume and cerebrospinal fluid cushioning.⁹

The importance of reform is evidenced by the findings of the Coroner's Court of Western Australia in the inquest into the death of Jessica Lesley Jackson, who died due to multiple organ failure from hyperthermia and dehydration after weight cutting for an amateur Muay Thai competition.¹⁰

Reform measures to consider include:

- Mandatory weight declarations in advance of the contest. The WA Coroner recommended at least 7 days.¹⁰
- Weight check tolerances with medical input.
- Other options include hydration testing at weigh-in, prohibiting diuretics and other dangerous dehydration practices, education for coaches and participants, and reviewing weigh-in timing.^{9 10}

Long-term brain health

The evidence of cumulative harm associated with concussion is growing, for example:

- A single concussion was associated with increased odds of motor neurone disease (OR 1.51), with the odds increasing to OR 4.01 among those who had sustained two concussions.¹¹
- A meta-analysis of boxers found that 23.3% had cavum septum pellucidum and 30.4% exhibited brain atrophy.¹² Cavum septum pellucidum has also been associated with poorer cognitive performance among professional fighters.¹³

Reform measures to consider include:

- A central record of knockouts, stoppages and suspensions that follows the participant across codes and states;
- A review of the fight record (losses, KOs) at every annual medical;
- A clear pathway for referral to a neurologist with concussion expertise when cognitive decline is suspected;
- A formal mechanism for the regulator to act on medical advice about retirement.

Conclusion

ACSEP does not endorse emerging combat activities such as 'bareknuckle boxing', 'power slap' or other 'collision' activities. However, where these activities occur, a regulatory framework should ensure that participants are afforded appropriate protections and that risks to participants are minimised.

This inquiry provides the NSW Legislative Council with an opportunity to strengthen regulations to provide consistent minimum standards for medical screening, event medical planning, ringside care, concussion management, medical suspensions, return-to-fight protocols and weight declarations. These protections should extend, where appropriate, to training and unsanctioned or emerging activities and should be supported by effective oversight and cross-jurisdictional coordination.

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