Martial Arts Research and Studies (M.A.R.S.)

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Practical guide

Fencing with sharp swords in Historical European Martial Arts.

A Practical Guide to Techniques, Safety Measures, and Risk Management

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Abstract

Introduction: Historical European Martial Arts (HEMA) encompass a diverse range of martial systems rooted in medieval and early modern Europe. Within this tradition, a lesser-known yet profoundly insightful practice is that of sharp fencing—controlled training with sharpened swords. Unlike conventional training methods that rely on blunt weapons and protective gear, sharp fencing demands an environment of complete control, deliberate slowness, and mutual trust between experienced practitioners. This paper explores the technical, psychological, and historical dimensions of sharp fencing. The tactile differences in blade engagement, the heightened psychological awareness of real risk, and the reaffirmation of HEMA as a serious martial discipline rather than a recreational sport are central to its value. Sharp fencing allows for a more authentic interpretation of historical techniques, some of which only reveal their full logic when practiced with sharp blades. However, this practice is not without risk and must be approached with the utmost caution, strict adherence to safety protocols, and only by those with advanced skill and composure.

Aim: The aim of this paper is to inform the reader about fencing with sharp swords; in Historical European Martial arts.

Keywords: Historical European Martial Arts- Historical Fencing – Sharp fencing – Combat sport - injury prevention

BACKGROUND:

Historical European Martial Arts (HEMA) refers to a broad category of martial systems that originated in Europe during the medieval and early modern periods. These arts encompass a wide range of practices—both armed and unarmed, in armour and without—with martial techniques comparable to those found in disciplines such as judo, jiu-jitsu, kendo and kenjutsu. Practitioners train with historical accurate weapons such as the longsword, rapier, sabre, and polearms like the spear and poleaxe. HEMA is practiced across varying levels of contact, from non-contact technical drills to full-contact competitive bouts, typically conducted with modern protective equipment (Jaquet et al. 2015, Jaquet & Walczak, 2015; Wauters & Van tiggelen, 2016; Wauters, 2020, Wauters, 2023 a: Wauters, 2023 b, Wauters & Ter mors, 2023).

The degree and type of protective equipment can vary depending on the specific style. In some approaches, no protection is necessary, while others may require only basic gear such as a fencing mask, throat guard, and light gloves. Full-contact formats, however, demand comprehensive protection: fencing mask, throat guard, reinforced gloves, chest and groin protectors, and padding for shoulders, elbows, knees, and shins (Wauters & Van tiggelen, 2016; Wauters, 2023 a: Wauters, 2023 b, Wauters & Ter mors, 2023).

HEMA differs from modern Olympic fencing by emphasizing historical accuracy, realistic striking power, and often integrating grappling and wrestling elements. The discipline is multifaceted and carries its own injury risks, underscoring the need for further research into injury prevention. Like martial arts from Eastern traditions, HEMA deserves recognition as a legitimate and complete martial practice on the global stage

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(Green 2001; Wauters, 2023 a: Wauters, 2023 b, Wauters & Ter mors, 2023).

As with many combat sports, HEMA can be divided into recreational and competitive streams, both of

which include structured training and tournament participation. Training sessions often involve physical conditioning, technical drills at varying intensities (low, moderate, or high), and tactical exercises. Some HEMA styles also include set forms, comparable to *kata* routines in Eastern martial traditions. These choreographed sequences of fencing techniques are used to train and demonstrate technical skill and control (Green 2001; Wauters, 2023 a: Wauters, 2023 b, Wauters & Ter mors, 2023).

HEMA encompasses various competitive formats across its different weapon styles. Full-contact matches—by far the most common—are comparable to those in martial arts such as judo, kickboxing, or Muay Thai. Less frequent are events like cutting contests (similar to *tameshigiri* in Japanese swordmanship (Kremer et al. 2008; Takeuchi, 2008; Habersetzer 2023), play-forms akin to *kata* competitions in arts like karate, judo, or kendo, and technical "Blöss" tournaments, which emphasize precision and technical mastery and often require reduced protective gear. In kata-style tournaments, two fencers perform a prearranged sequence of movements, and their performance is evaluated and compared (Green 2001; Wauters, 2023 a: Wauters, 2023 b, Wauters & Ter mors, 2023).

Aim:
The aim of this paper is to inform the reader about fencing with sharp swords; in Historical European Martial arts.

SHARP FENCING

Fencing with sharp sword (aka sharp fencing) can be very dangerous and should be done with the utmost caution, care and safety measures. Historically, one of the main purposes of a sword was to injure or kill—whether in aggression or self-defence (Manzon et al, 2024; Valoriani et al, 2017; Takeuchi, 2009). Sharp trauma injuries continue to be commonly reported in emergency departments, even in today's modern society (Weber et al. 2020; Ellaban et al,; 2021 Kiran & Choudhary, 2022.)

As a result, by the nature of the tool, sharp fencing inherently involves safety risks. It must always be conducted with maximum control, total concentration, and at a very slow pace, with constant readiness to stop or retract a technique when necessary. There is no place for point-scoring or "hit-based" fencing as seen in sparring or tournaments. Sharp fencing is solely about control, technique, and safety.

Fencing with sharp sword should never be considered sparring. Sparring in martial arts is almost always with partner contact, either low, medium or full contact. To avoid confusion, fencing with sharp swords should not be called sparring but rather sharp fencing, or a sharp fencing session. It should be observed that pressure testing sparring with sharp swords has a high injury risk.

Inexperienced fencers should never participate in sharp fencing. The authors accept no responsibility for injuries sustained during such practice.

SAFETY MEASURES

Although sharp fencing carries inherent risks, it can be practiced safely if proper methods are followed. Injury prevention can be approached in various ways and at multiple levels. These levels can be broadly categorized as internal—relating to the athlete's physical and psychological condition—and external, concerning the sport environment and setting (Pless, 2016; Hagel & Meeuwissen, 2004Finch, 2006: Van tiggelen, et al. 2008).

Environment Setting

The environment for sharp fencing must be calm, quiet, and safe. Full concentration is required, and distractions—such as talking or loud noises—must be avoided. Distraction can lead to the loss of focus.

The space should be free from environmental hazards like uneven ground, people running around or obstacles that could interfere with movement.



Photo 1: A sharp (Top) and blunt (Bottom) arming sword used in Historical European Marital Arts.

Required Skill Set

Inexperienced fencers and people new to Hema should not participate in sharp fencing. A decent understanding of the techniques is required, both technical execution and counter techniques. All techniques should be executed with care, precision, and consistency to ensure the safety of both participants. The executing fencer must perform techniques reliably, and the receiving fencer must be skilled enough to respond appropriately and safely.

Fencers should not attempt unpractised techniques, and no one should fence with a partner whose skills are uncertain.

Communication

Effective communication plays a vital role in the practice of fencing with sharp weapons; however, it must be exercised with precision and intentionality. Given the inherent risks associated with training under such conditions, sustained focus and mental discipline are paramount. Casual conversation or extraneous dialogue—commonly referred to as "chitchat"—is not only inadvisable but may also significantly compromise situational awareness and safety.

Conversely, targeted communication concerning specific techniques is both necessary and beneficial. The verbal articulation of tactical intent, contextual parameters, and technical nuances serves to align the understanding between training partners. Such exchanges enhance mutual comprehension and facilitate the accurate execution of techniques within a shared conceptual framework. In this manner, communication functions not as a distraction, but as an instrument of clarity, contributing to both pedagogical effectiveness and operational safety.

Required Mindset

Both fencers must remain calm, neutral, friendly, and focused. Negative emotions—such as anger, frustration, discontent or fear—can cloud judgment and increase risk. The use of drugs, alcohol, or mind-altering substances is strictly prohibited, as these impair judgment, reaction time, and emotional stability.

Trust

Trust between training partners is a foundational element in the practice of fencing with sharp blades. The inherent risks demand a high degree of mutual reliance—not only in technical competence but also in the ability to remain composed, focused, and responsible under pressure. However, this trust must be critically assessed and not granted indiscriminately. Misplaced trust—such as engaging in partnered exercises with individuals who, despite personal rapport or friendship, demonstrate questionable technique, inadequate control, or a lack of appropriate mindset—can significantly undermine safety and the pedagogical value of training.

Trust, in this context, should be earned through consistent demonstration of skill, respect for the weapon, and a shared commitment to safe and intentional practice. Personal familiarity alone is not a sufficient criterion; rather, it is the partner's proven ability to engage in deliberate, conscientious training that should inform one's willingness to collaborate in high-stakes settings.

Fencers should never engage in sharp fencing with someone they do not trust or who is not in the proper mindset.

Speed

While many martial disciplines emphasize speed as a means of overcoming an opponent's defenses, such emphasis is fundamentally incompatible with the principles and requirements of sharp fencing. Speed, by its very nature, aims to reduce the time available for an



Photo 2: Left, fencing with minimal equipment. Right, Fencing with sharp swords. Style Single Sword and Messer

adversary to perceive, interpret, and respond to an action. In the context of sharp blades, this reduction in reaction time poses an unacceptable safety risk. The use of speed in such scenarios can easily bypass the partner's capacity to respond or protect themselves appropriately, thereby transforming technical practice into a potentially hazardous encounter.

Therefore, sharp fencing must be approached with a deliberate and methodical pacing. Allowing one's partner sufficient time to register and understand each movement is not merely a matter of courtesy, but of essential safety protocol. Actions should be executed at a consciously controlled tempo—commonly described as walking, stepping, or marching speed—to ensure that both intent and structure remain legible throughout the exchange.

Moreover, activities such as sparring or pressure testing are strongly discouraged when working with live blades. The unpredictable variables introduced by resistance, competitive drive, or miscommunication are incompatible with the risk profile of sharp training. Instead, sharp fencing should prioritize precision, control, and mutual awareness, reinforcing a pedagogical model grounded in cooperative exploration rather than combative escalation.

Be aware that sometimes during fencing the fencing speed can increase. If this is the case, restart and reset at a lower speed.

Perimeter

Technical actions must be executed with clarity of direction and intent, while simultaneously adhering to strict safety protocols. They should be halted well before reaching the partner's body, maintaining a minimum safety buffer of approximately 30 to 40 cm. While this distance may appear excessive at first glance, it provides a crucial margin for error. Minor miscalculations—ranging from 10 to 20 cm—can still occur without resulting in accidental contact, thereby preserving safety. In contrast, a reduced margin of only 20 cm significantly narrows the window for error, increasing the likelihood that even slight inaccuracies in timing, distance, or control may lead to unintended physical contact. Maintaining a generous safety perimeter is therefore not only a conservative precaution but a fundamental requirement for responsible training with sharp blades.

Materials and Equipment

The **sharpness** of the sword significantly affects how it binds. Blunt swords tend to slide, while sharp ones "bite" and engage more predictably. Semi-sharp swords can behave unpredictably and are therefore unsuitable. Swords used in sharp fencing must have a consistent level of sharpness to ensure safety and control. Own experience shows that the sharpest sword of the pair tends to bite the best on the other.

Interestingly, and contrary to what one might expect, **protective equipment** and the use of fencing masks, helmets, or goggles is discouraged. These can reduce



Photo 3: A blunt sword fencing exchange. ill-advanced techniques in sharp fencing. (skin-blade contact)

visibility and hearing, which may lead to unsafe decision making. Additionally, protective gear may lead to risk compensation—a psychological effect in which perceived safety leads to riskier behaviour (Finch, 2006; Pless, 2016; Van Tiggelen et al, 2008. Wauters 2023c) While the head may be protected, the chest, arms, and legs are still vulnerable, and this false sense of security can increase injury risk. Not wearing a mask increases awareness, focus and alertness, leading to safer behaviour overall.

That said, the authors do recommend wearing light **protective gloves** to prevent minor injuries during binding. Sliding toward the hands can lead to small cuts or abrasions.

Historically, one-handed swords often, but not always (cfr Messer) , were used in combination with a **shield**. These auxiliary tools served both offensive and defensive purposes and hold significant value within Historical European Martial Arts (HEMA). Various types of shields appear in the historical record, including bucklers, heater shields, rotellas, bronze age shields, Viking-style/migration period round shields, and dueling shields (Schmidt, 2015; Uckelmann, 2011; Hermann et al. 2020; Warming et al. 2020; Wauters 2023a; Wauters 2023b). While larger shields offer greater surface area for protection, this advantage comes at a cost. Increased size typically results in greater weight, reduced manoeuvrability, and slower response times compared to smaller shields like bucklers. Moreover, larger shields tend to obstruct the user's and partners field of vision, which may be particularly problematic in high-risk contexts. When a fighter's field of view is blocked, their ability to react to threats is severely diminished, increasing the likelihood of injury. Fencers should be cautious of visual obstruction, as it impairs reaction abilities, reaction time and situational awareness, all crucial factors in ensuring safety during sharp blade training.

Thus, while the combination of shields and swords has significant historical value and theoretical applications, the use of larger shields in sharp fencing should be strongly discouraged. The visual and tactical limitations posed by these shields outweigh their protective benefits in the context of modern fencing, where agility and awareness are paramount to reducing injury risks.

GOALS AND ADVANTAGES

Sharp fencing offers several unique advantages:

1. **Historical value**: In terms of **research**, sharp fencing can be useful to investigate how certain techniques differ between sharp and blunt weapons as a form of experimental archaeology (Gentile et al. 2024; Hermann et al.2020). Sharp fencing serves as a **living homage** to past martial traditions. It reminds us that these techniques were not originally for sport or recreation, but for war, civil defence, and personal protection—often with deadly consequences.

2. **Technical Value**: The feeling of the bind differs greatly when using sharp weapons. Blunt or feder swords tend to slide during edge-on-edge contact. Sharp swords, by contrast, often "bite" into each other, affecting how techniques behave. Some techniques described in historical manuscripts seem counterintuitive when practiced with blunt weapons, but become clearer when using sharp blades. Sharp fencing allows exploration of these techniques in a setting closer to historical reality—though it's important to note that speed, pressure, and mindset still differ significantly from actual combat.

3. **Psychological Value**: Training with blunt or "safe" swords may change our mental approach to fencing. Blunt weapons can cause injury but rarely result in

serious harm. Sharp weapons, however, carry an inherent risk of serious or even fatal injury. This psychological factor historically influenced fencing styles and should continue to do so today. Furthermore, training with sharp swords requires the highest level of concentration, which helps develop focus, awareness and alertness.

4. **Training value**: Sharp fencing is a great way to train psychological and physical aspects. Psychological aspect such as focus, awareness, self-regulation, and alertness, comparable like sports such as aikido and tai chi and other comparable slow pace, high focus martial arts. Physical aspect such as motor control, body awareness, and body mechanics such as done in kata in eastern martial arts (Chaabène et al. 2015; Chow 2018; Gawel & Zwierzchowska, 2024; Lothes et al, 2013; Soloway et al. 2016; Tsang, et al. 2012; Vujkov et al. 2015; Yang et al. 2021;)

PRACTICE

Beginning of Fencing and Saluting

Prior to the commencement of any fencing session, it is prudent to evaluate the partner's current mental and emotional condition—regardless of previous familiarity or frequency of past collaboration. It is always better to review the applicable rules and safety protocols to ensure a safe and orderly proceeding.

Saluting one's partner is a common ritual in many martial arts, such as Filipino, Thai, Japanese, and Chinese systems (Green, 2001). Whether the setting is technical, sparring, or competitive, the salute reflects the fencers' mindset.

Although, by our knowledge, there is little historical evidence for saluting in European martial arts, many modern clubs incorporate it into training or competition. Fast salutes may signal agitation, while slow ones suggest calmness. Because sharp fencing requires a composed state of mind, beginning with a slow, deliberate salute is recommended to establish a focused and respectful atmosphere.

First Encounter with Sharp Fencing

It is very difficult to state how many years of training a fencer should have before engaging in sharp fencing. Some might be ready after several months of training, while some individuals may never be in a position to fence with sharp swords due to a lack of knowledge, skill, or the appropriate mindset. This is perfectly okay and should not be seen as a limitation, but rather as a recognition of personal readiness.

A first encounter with sharp fencing should always occur in the safe environment described above, with a skilled and experienced partner. Prior all safety regulations and measures should be reviewed. The fencing itself must involve high technical proficiency, slow speed, and clearly communicated intentions. The receiving fencer should always have time to react appropriately. Speed reduces reaction time and increases risk.

Technical practice

Sharp fencing requires a calm, quiet, and hazard-free environment to ensure full concentration and minimize risk. Participants must maintain a calm, focused, and friendly mindset. Emotions like anger or fear, as well as substances that impair judgment, are strictly prohibited. Mutual trust is essential for safe interaction.

Sharp fencing should be performed slowly, at a walking pace, to allow adequate reaction time. Sparring or pressure testing is strongly discouraged due to the high risk of injury. Movements and techniques should be fluid, clear and deliberate, but never fully followed through. For instance, in an *Oberhaw* or *Absetzen* against another *Oberhaw*, the technique must be clear and obvious in direction and intent, but the thrust should stop well short—maintaining a minimum safety distance of 30–40 cm from the receiver's body. Breaching this perimeter increases the risk of accidental contact.

Sharp fencing should always be performed at the slowest speed possible. The authors recommend no more than 10–15% of normal fencing speed.

Techniques that involve close contact to the blade like Schwert/Messer nehmen (Liechtenauer, Leckuchner: grabbing of the sword blade of the adversary) (Hagedorn,

2007; Hagedorn, 2017; Forgeng, 2015) and überfaren (Leckuchner: Going over the blade and wrapping the arm over it, trapping it against your body (Forgeng, 2015) and Duplieren (Hagedorn, 2007; Hagedorn, 2017; Forgeng, 2015) are considered dangerous due to the nature of the technique (body-blade contact) and should be avoided or done with great care.

Risk habituation

More experienced fencers should be particularly mindful of **risk habituation**. This psychological process refers to the unconscious desensitization to danger resulting from repeated exposure to a potentially hazardous activity without negative outcomes. Over time, the perceived severity of the risk diminishes, often accompanied by a reduction in vigilance, alertness, and cognitive focus—factors (Wilde, 1998; Wilde 2006; Simonet & Wilde, 2008; Finch, 2006; Van tiggelen et al. 2008). that may increase the likelihood of accidents or injuries during fencing with sharp weapons.

Risk habituation can be understood as a contributing mechanism within the broader framework of **risk homeostasis theory** (Wilde, 1998; Wilde 2006; Simonet & Wilde, 2008; Finch, 2006; Van tiggelen et al. 2008). According to this theory, individuals tend to regulate their behaviour in such a way that their **subjectively acceptable level of risk** remains relatively constant. When perceived danger decreases—due to increased familiarity, safety equipment, or procedural control—individuals may engage in riskier behaviour to maintain their personal risk equilibrium (Wilde, 1998; Wilde 2006; Simonet & Wilde, 2008; Finch, 2006; Van tiggelen et al. 2008).

Closely related is the concept of **risk compensation**, which refers to behavioural adjustments in response to perceived increases in safety. For example, fencers may adopt more aggressive or less controlled techniques when using highly protective equipment, under the assumption that the risk of injury is reduced (Wilde, 1998; Wilde 2006; Simonet & Wilde, 2008; Finch, 2006; Van tiggelen et al. 2008).

While risk compensation typically involves conscious or semi-conscious decision-making, risk habituation operates at a more subtle, neurological and perceptual level. Both processes, however, can erode safety margins over time and should be taken seriously—particularly in practices involving sharp weapons, where the consequences of diminished caution may be severe (Wilde, 1998; Wilde 2006; Simonet & Wilde, 2008; Finch, 2006; Van tiggelen et al. 2008).

ADVICES FOR FENCERS AND STARTERS

1. Adherence to established safety protocols is mandatory at all times, regardless of context or experience level.
2. Always fence in a calm state of mind.
3. If you feel unsafe, end the fencing session.
4. If this is the first encounter with sharp fencing, always fence with an experienced fencer.
5. If this is the first encounter with a specific partner we advise to start with blunt weapons when fencing someone for the first time, either with full, medium and/or no equipment at a slow pace. This allows to assess their fencing style. If the style proves unsafe, it's not advisable to proceed with sharp weapons.
6. More experienced fencer should be aware of Risk habituation.
7. End the session when fatigue comes in.
8. Insurance: remember that some insurance companies might not cover accidents with sharp swords. Fencers should verify whether their insurance policy provides coverage for such incidents.

CONCLUSION

Sharp fencing is a valuable aspect of the HEMA spectrum, offering unique technical, psychological, and historical insights and posibilities. However, it comes with inherent risks and important safety measures and precautions should be taken. It should only be practiced in a controlled environment, with the right mindset, sufficient skill, and an experienced partner. Inexperienced fencers must never participate. Although sharp fencing carries a risk of injury, that risk can be significantly reduced

through careful preparation and adherence to safety principles. Further research into sharp fencing practices is encouraged.

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Conflict of interest

No conflicts of interest are present.

Founding

There was no founding for this work.

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