

## WHAT IS HANDCUFFING?

Handcuffing is a lawful method of physical restraint routinely applied to reduce arm and hand mobility (1). However, misuse amounting to torture and ill-treatment has been documented (2). Note that shackling/leg cuffing is not addressed here.

The UN Special Rapporteur on Torture views handcuffing as a legitimate type of restraint but notes that physical restraints may not be applied in a degrading or painful manner nor for disciplinary purposes as per Mandela Rule 43.2 (3,4). He noted its use as a facilitating tool for torture by suspension (4) and the European Court on Human Rights established violations of Article 3 of the European Convention on Human Rights in cases where handcuffing was used as an element of other methods of torture and ill-treatment (5,6).

## IN PRACTICE

Handcuffs are the most utilized physical restraint device by law enforcement agencies globally (7). They are ordinarily employed at the moment of arrest and during transfer (7,8). The circumstances of restraint may result in unnecessary handcuff tightening (9).

The most common handcuffing means are traditional handcuffs joined by a chain, or by an inflexible bar (9), and plastic/nylon handcuffs (2,9). Victims of torture and ill-treatment have also reported use of other means of wrist restraint (10) including scarfs and rags applied with the specific aim of avoiding visible marks (11).

In the UK, where rigid handcuffs are commonplace, a study demonstrated that a significant proportion of detainees who were handcuffed (54%) reported handcuff injuries (12). An evaluation of police custody in France showed that 6% of cases in a study of 190 detainees presented with symptoms owing to handcuffing which varied by length of time in handcuffs and the level of compression (8). Similar findings have been documented elsewhere (13,14). While prolonged wrist restraint is a well-known form of torture (15), the severity of injuries is impacted by whether the victim is lifted or pulled by the restraints or suspended while restrained (15). Injury severity is also impacted if additional force methods are inflicted such as twisting or if leverage is applied to the handcuffs. Injuries can also be more severe if the wrists are pulled apart or use of force is applied subsequent to handcuff application (16). Handcuffing may also be used to humiliate the victim, e.g. in perp walks where an arrested suspect is paraded in public as a form of punishment (17).

## HEALTH CONSEQUENCES

The most common complaints relating to handcuffs are numbness, sensory disturbance and pain around the wrists (8). Even in absence of physical signs sequelae can be persistent, severe and potentially debilitating (9,18). As those who are most likely to endure handcuff injuries may be transiently in custody, it is notoriously challenging to carry out studies, ensure timely documentation, and offer specialized medical care and follow-up (8,19). The following specific health consequences have been documented:

### *Skin damage*

Abrasions, lacerations, ecchymosis (bruise) and hand oedema (swelling) have been reported (8,19,20). While skin lesions are often short-lived, permanent scarring may occasionally occur (15). Misuse of handcuffs cannot be ruled out in cases where no damage is evident (19).

### *Nerve injuries*

Compression neuropathies (nerve damage) are the most well-known results of wrist restraint (15). In a study of physical torture in Egypt, characteristic lesions of handcuffs were found in 68 cases (19%). Of those injuries resulting in permanent disability (31) most cases (77%) were related to nerve damage (21). Handcuff neuropathy injuries are most common to the superficial branch of the radial nerve, but the median and ulnar nerves can also be affected with both sensory and motor dysfunction potentially resulting in disability (13,14,20). Whereas damage to the radial nerve is well-documented (13,22,23), injuries to the median and ulnar nerves are less frequently observed (9,13).

### *Fractures*

In rare cases, victims have endured bone fractures of the wrist, namely the radial styloid (9,18) and scaphoid (18,24). These fractures have been associated with the use of rigid handcuffs, overtightening and resistance/force. Fractures to the proximal humerus on the upper arm have been described in five cases of handcuffed adolescents, who may have been at increased risk of fractures due to skeletal immaturity (25).

## CONCLUSION

Employment of handcuffs is regarded as a legitimate means of physical restraint, but misuse is also documented. The effects of usage depend on the length of period of restraint, level of compression and the combination with use of force. The documented health consequences of application include skin damage, nerve injuries and rare fractures. Physical methods of ill-treatment may have additional psychological consequences.

## References

1. Payne-James J. Restraint Techniques, Injuries, and Death: Handcuffs. *Encycl Forensic Leg Med*. 2016 Dec 31;
2. Amnesty International. *Pain Merchants: Security Equipment and Its Use in Torture and Other Ill-treatment*. 2003;
3. UNSRT. Report by the Special Rapporteur on torture to the UN ECOSOC [Internet]. 2003 Dec. Report No.: E/CN.4/2004/56, para. 45. Available from: <https://undocs.org/E/CN.4/2004/56>
4. Nowak M, UN. Human Rights Council. Special Rapporteur on Torture and Other Cruel I or DT or P. Report of the Special Rapporteur on Torture and Other Cruel, Inhuman or Degrading Treatment or Punishment, Manfred Nowak : 2010 Jan 7 [cited 2021 Dec 21]; Available from: <https://digitallibrary.un.org/record/679103>
5. ECHR. *Nevmerzhitsky v. Ukraine* [Internet]. 2005 [cited 2021 Nov 1]. Available from: <http://hudoc.echr.coe.int/fre?i=002-3914>
6. ECHR. *Kucheruk v. Ukraine* [Internet]. 2007 [cited 2021 Nov 1]. Available from: <http://hudoc.echr.coe.int/eng?i=001-82200>
7. Howard JD. Restraint Techniques, Injuries and Death. In *Encyclopedia of Forensic and Legal Medicine*; 2005.
8. Chariot P, Ragot F, Authier FJ, Questel F, Diamant-Berger O. Focal neurological complications of handcuff application. *J Forensic Sci*. 2001 Sep;46(5):1124–5.
9. Haddad FS, Goddard NJ, Kanvinde RN, Burke F. Complaints of pain after use of handcuffs should not be dismissed. *BMJ*. 1999 Jan 2;318(7175):55.
10. Moreno A, Grodin MA. Torture and its neurological sequelae. *Spinal Cord*. 2002 May;40(5):213–23.
11. Rejali DM. *Torture and democracy*. 1. paperback printing. Princeton, N.J.: Princeton Univ. Press; 2009. 849 p.
12. Rogers JB. The Work of Humiliation: A Psychoanalytic Understanding of Checkpoints, Borders and the Animation of the Legal World. *Law Crit*. 2017 Jul 1;28(2):215–33.
13. Scott TF, Yager JG, Gross JA. Handcuff neuropathy revisited. *Muscle Nerve*. 1989 Mar;12(3):219–20.
14. Stone DA, Lauren R. Handcuff neuropathies. *Neurology*. 1991 Jan;41(1):145–7.
15. Neufeld MY, Kimball S, Stein AB, Crosby SS. Forensic evaluation of alleged wrist restraint/handcuff injuries in survivors of torture utilizing the Istanbul Protocol. *Int J Legal Med*. 2021 Mar;135(2):583–90.
16. Granville-Chapman C, Smith E, Moloney N. Excessive force during removal of immigration detainees. *J Clin Forensic Med*. 2005 Aug;12(4):209–11.
17. Wringe B. Perp Walks as Punishment. *Ethical Theory Moral Pract*. 2015 Jun;18(3):615–29.
18. Richmond PW, Fligelstone LJ, Lewis E. Injuries caused by handcuffs. *BMJ*. 1988 Jul 9;297(6641):111–2.
19. Grant AC, Cook AA. A prospective study of handcuff neuropathies. *Muscle Nerve*. 2000 Jun;23(6):933–8.
20. Levin RA, Felsenthal G. Handcuff neuropathy: two unusual cases. *Arch Phys Med Rehabil*. 1984 Jan;65(1):41–3.
21. Ghaleb SS, Elshabrawy EM, Elkaradawy MH, Nemr Welson N. Retrospective study of positive physical torture cases in Cairo (2009 & 2010). *J Forensic Leg Med*. 2014 May;24:37–45.
22. Dorfman LJ, Jayaram AR. Handcuff Neuropathy. *JAMA*. 1978 Mar 6;239(10):957–957.
23. Massey EW, Pleet AB. Handcuffs and cheiralgia paresthetica. *Neurology*. 1978 Dec;28(12):1312–3.
24. Ball L, Ferran NA, Barton CR. Scaphoid Fracture Due to Rigid Handcuffs. *J Hand Surg Eur Vol*. 2008 Aug 1;33(4):484–7.
25. Hilton M, Yngve DA, Carmichael KD. Proximal humerus fractures sustained during the use of restraints in adolescents. *J Pediatr Orthop*. 2006 Jan 1;26(1):50–2.

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