

On behalf of RCGPNI Executive Team

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1. Todd A, Johnston PC. Uptake of the use of patient-doctor e-mail in an endocrinology outpatient setting. *Ulster Med J.* 2017;86(1):42-9.
2. Murphy AW. Inappropriate attenders at accident and emergency departments I: definition, incidence and reasons for attendance. *Fam Pract.* 1998;15(1): 23-32.

AUTHORS' RESPONSE: INAPPROPRIATE ED ATTENDANCES IN NORTHERN IRELAND: COMMENT FROM RCGP NORTHERN IRELAND.

Editor,

We thank Dr Dorman and the RCGPNI Executive Team for their interest in our work and we are pleased to reply.

Dr Dorman rightly acknowledges that there is no internationally recognised definition of an Emergency Department (ED) inappropriate attendance. A recent survey of ED nurses, doctors and paramedics in three Irish hospitals identified a variety of definitions of inappropriate attendance, with variation within the different professional groups.¹ It is possible that other healthcare practitioners may have disagreed with some of the assessments made by the small group undertaking our analysis of attendances.

We recognise the limitations associated with our review, including its small size and its retrospective nature, which, as we acknowledge in our paper, means that our analysis was limited by the comprehensiveness of the ED notes.

We would welcome further, larger studies into the appropriateness of ED attendances and the characteristics associated with ED attendance. Studies undertaken in other areas have provided some analysis of the determinants of ED use.^{2,3} However, despite the limitations which we have noted in our own analysis, we believe that it has given us some useful information on the proportions of attendees to EDs, within one Trust in Northern Ireland, who may have the potential to be seen safely in alternative settings.

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REFERENCES

1. Breen BM, McCann M. Healthcare providers attitudes and perceptions of 'inappropriate attendance' in the Emergency Department. *Int Emerg Nurs.* 2013;21(3):180-5
2. McHale P, Wood S, Hughes K, Bellis M, Demnitz U, Wyke S. Who uses emergency departments inappropriately and when - a national cross-sectional study using a monitoring data system. *BMC Med.* 2013;11:258.
3. Carret ML, Fassa AC, Domingues RM. Inappropriate use of emergency services: a systematic review of prevalence and associated factors. *Cad Saúde Pública.* 2009;25(1):7-28.

COMPLETE TRANSECTION OF THE RADIAL NERVE ASSOCIATED WITH A CLOSED HUMERAL SHAFT FRACTURE

Editor,

A 29-year-old female sustained a closed, comminuted fracture of her left midshaft humerus (**Figure 1**) with an associated radial nerve palsy, disruption of her right sacro-iliac joint with an associated fracture of the right superior pubic ramus and a stable first cervical vertebral fracture as the result of a high-speed road traffic accident. The pelvic injury was stabilised using two sacro-iliac screws and a halo-vest applied in order to manage her cervical spine fracture. A decision was taken to proceed with operative fixation of her left humeral shaft fracture to assist with postoperative mobilisation.



Fig 1. Preoperative anteroposterior and lateral radiographs of left humerus.

The humeral shaft fracture was exposed via an anterolateral approach. The fracture fragments were noted to be widely separated with significant periosteal stripping and soft tissue disruption. The radial nerve was found to be completely transected just proximal to the level of the fracture. The humeral fracture was stabilised using a narrow dynamic compression plate (**Figure 2**). A direct end-to-end nerve repair was performed once fracture stability had been achieved. Postoperatively she was referred for splinting and upper limb rehabilitation. The pelvic and cervical spine injuries healed without complication and the left humeral shaft fracture proceeded satisfactorily to bony union. Approximately 11 months post-injury, the patient regained full recovery of her left radial nerve motor and sensory functions (**Figure 3**).

Approximately 11% of patients with a closed humeral shaft fracture develop a radial nerve palsy with spontaneous recovery of nerve function occurring in approximately 70% of cases and hence the presence of a radial nerve palsy at the time of a closed humeral shaft fracture is not an absolute indication for surgical exploration.¹ Middle third humeral fractures have the highest incidence of nerve injury because



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Fig 2. Postoperative anteroposterior and lateral radiographs of left humerus.

the nerve lies immediately adjacent to the periosteum in this region². Closed fractures are more commonly associated with a neurapraxia, whereas neurotmesis is more common in open fractures^{3,4}.

Leucht et al.⁵ reported two cases of radial nerve transection associated with a closed humeral shaft fracture. Both patients underwent operative fixation of their humeral fracture due to their associated injuries and at the time of surgery transection of the radial nerve was noted. The authors concluded that without the additional injuries the two patients would have been candidates for functional bracing with the result that the radial nerve transection would have been missed.

Non-operative treatment of closed humeral shaft fractures usually leads to a satisfactory outcome even in the presence of a radial nerve palsy. However, some patients may have a radial nerve transection which will be missed if their fracture is treated conservatively. We suggest that the possibility of radial nerve transection should be considered in closed humeral shaft fractures with an associated radial nerve palsy which occur as a result of high-energy trauma or those fractures where there is marked displacement of the bone fragments.

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REFERENCES

1. Shao YC, Harwood P, Grotz MR, Limb D, Giannoudis PV. Radial nerve palsy associated with fractures of the humeral shaft: a systematic review. *J Bone Joint Surg Br.* 2005;**87**(12):1647-52.
2. Ashfaq Hassan S, Rauls RB, Cordell CL, Bailey MS, Nguyen T. "Zone of vulnerability" for radial nerve injury: anatomic study. *J Surg Orthop Adv.* 2014;**23**(2):105-10.
3. DeFranco MJ, Lawton JN. Radial nerve injuries associated with humeral fractures. *J Hand Surg Am* 2006;**31**(4):655-63.
4. Foster RJ, Swiontkowski MF, Bach AW, Sack JT. Radial nerve palsy caused by open humeral shaft fractures. *J Hand Surg Am.* 1993;**18**(1):121-4.
5. Leucht P, Ryu JHJ, Bellino MJ. Radial nerve transection associated with closed humeral shaft fractures: a report of two cases and review of the literature. *J Shoulder Elbow Surg* 2015;**24**(4):e96-100.

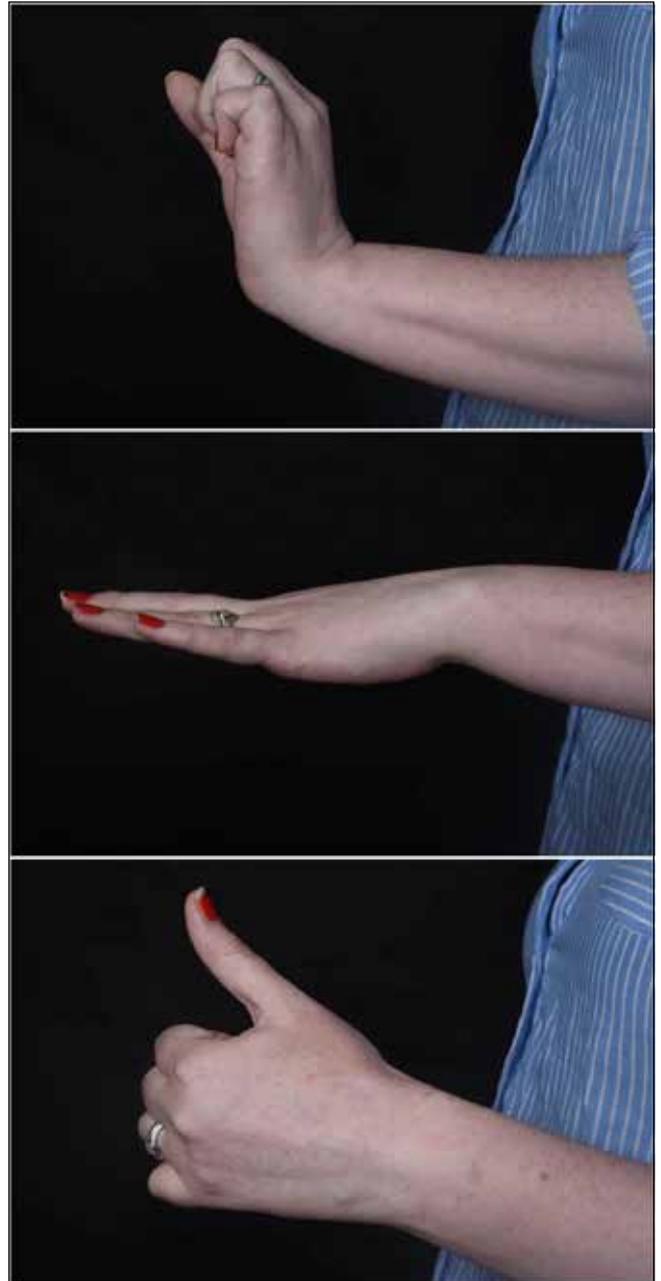


Fig 3. Clinical pictures demonstrating active left wrist extension and active extension of the fingers and thumb left hand.