

health
technology
assessment



EXECUTIVE
SUMMARY

**SKULL RADIOGRAPHS
IN HEAD INJURY
PATIENTS**

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EXECUTIVE SUMMARY

INTRODUCTION

In recent years, with the availability of CT scans, the role of routine skull radiographs in minor neuro-trauma has been questioned. In moderate and severe head trauma, a CT scan is the investigation of choice.

OBJECTIVE

To determine the effectiveness, legal and cost implications of routine skull radiographs in head trauma cases.

RESULTS & CONCLUSIONS

Skull radiographs only show fractures, and do not afford visibility of either brain or blood to demonstrate an intracranial injury. The presence of a skull fracture without neurological abnormalities is of little significance. The pick-up rate of skull fractures by skull radiographs in patients with mild head injury has been reported as being very low, ranging from 1.9% to 4.3%. A skull fracture does not necessarily imply significant intracranial injury, while despite the absence of a skull fracture a patient could be having significant intracranial pathology.

Skull radiographs are helpful in those patients suspected of non-accidental injury, depressed skull fracture, penetrating head injury by a foreign body, or head trauma in children less than 2 years of age, even without neurological symptoms.

With respect to costs, a study on the effective use of diagnostic radiology in the UK found that about £11,000 could be saved within a year if routine skull X-rays were excluded. Legally, if a doctor omits skull radiographs in minor head trauma, he cannot be judged negligent as opinion on this matter is divided and not well established.

In conclusion, there is sufficient evidence that routine skull radiographs are not effective or useful in minor head trauma.

RECOMMENDATIONS

- Routine skull radiographs are not recommended in minor head trauma.
- A skull radiograph is only indicated in head trauma patients where a CT scan is otherwise not clinically indicated during the initial evaluation, but in whom:
 - age is less than 2 years
 - a depressed fracture is suspected clinically or by the nature of the injury
 - a penetrating injury by metal, glass is suspected
 - a foreign body is suspected
 - there is a history of loss of consciousness or post-traumatic amnesia