

# How accurately do paramedics identify acute pulmonary oedema?

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## INTRODUCTION

Acute pulmonary oedema (APO) is often difficult to differentiate from other causes of dyspnoea in the prehospital setting. Radiography and echocardiography are not available to assist paramedic in the identification of APO. Information is limited on how accurately paramedics identify patients with APO in the prehospital setting.

## AIM

The aims of the study were to (1) describe clinical presentation and treatment of patients with APO and (2) determine the accuracy of paramedic identification of APO.

## METHODS

The cohort study included all ambulance cases identified as 'APO' by paramedics and transported a hospital ED in the Perth greater metropolitan area in 2011. We linked data from the St John Ambulance-Western Australia database and an ED Information System. The paramedic-assigned, ambulance problem codes for APO were compared to the ED medical discharge diagnosis (ICD 10-AM codes). Positive predictive value (proportion of cases identified by paramedics as APO who also had an ED discharge diagnosis of APO), and sensitivity of paramedics identifying APO (proportion of cases with an ED discharge diagnosis of APO who were also identified by paramedics as APO) were calculated.

## RESULTS

The ambulance service transported 495 patients an ED with APO identified by the paramedics. Common presenting signs and symptoms were shortness of breath, crepitations, high systolic blood pressure and chest pain. Only 3% of patient episodes had pink frothy sputum. Positive predictive value was 41%, i.e. 186 patient episodes had an ED discharge diagnosis of APO. Sensitivity was 29%, i.e. paramedics identified 186 of 631 ED presentations with APO.

## CONCLUSION

It is difficult to identify APO in the prehospital setting. The signs and symptoms associated with this condition are highly variable. Ambulance paramedics need to be aware of such variability when considering patients who may be suffering APO.