

# ENDGAMES

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## PICTURE QUIZ Unusual breathing in a 7 year old

A 7 year old girl was referred for a sleep study after her parents noticed unusual breathing while she slept. Her breathing was described as slow with many pauses.

After a normal term delivery, she was diagnosed as having truncus arteriosus associated with a large ventricular septal defect. Both were surgically repaired at age 1 month, with uneventful postoperative recovery and normal subsequent cardiac function.

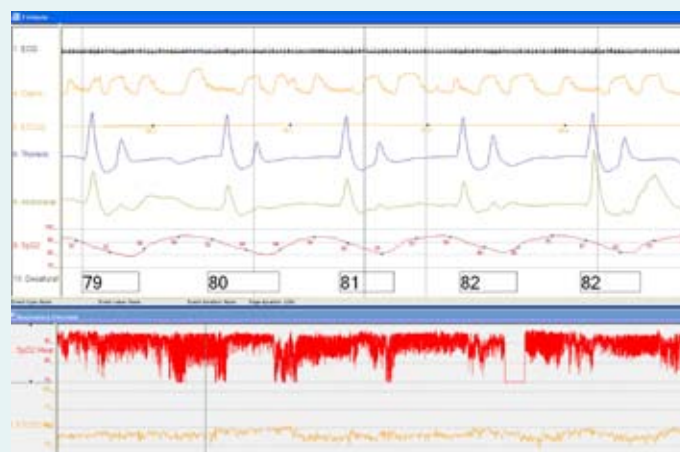
She had no overt dysmorphic features. She was nasogastrically fed from age 7 months for failure to thrive after feeding difficulties, then via a gastrostomy from age 2.5 years until 4 years. A clinical diagnosis of DiGeorge syndrome was confirmed by detection of a 22q11.2 deletion on genetic analysis.

By age 6 years, she was fully orally fed and swallow assessment was normal.

She remained clinically well until age 7 years, when the unusual breathing started. A history of choking on food and drinks, difficulty coping with oral secretions, and frequent drooling was elicited from her parents.

Clinical examination was normal. A videofluoroscopic swallow assessment showed obvious aspiration.

A cardiorespiratory sleep study was performed and the following summary was obtained (figure).



Cardiorespiratory sleep study

- 1 What does the figure represent and how would you interpret it?
- 2 What is the probable cause of the abnormality?
- 3 What further investigations should be performed?
- 4 What management would you suggest?

Submitted by F Abel, D Kilner, and S Sonnappa

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## CASE REPORT

### A case of sudden ankle pain

A 55 year old man presented with a sudden onset sharp pain in his right lower calf. It occurred while he was lunging forward in a game of tennis, and he had to stop playing. The initial pain, described as "like a hammer blow," subsided, and on admission to hospital his only symptom was discomfort around the posterior aspect of his right ankle. He was able to weight bear and mobilise with some difficulty. He had no other injuries, had not previously experienced trauma to the area, and was fit and well apart from taking allopurinol for gout. There was no family medical history of note. He was a non-smoker and drank alcohol occasionally.

On examination, the right lower calf area was swollen and mildly tender. A depression was palpable along the Achilles tendon about 3 cm proximal to the site of tendon insertion at the calcaneus. He was neurovascularly intact and the range of movement was unaffected. The Simmonds-Thompson test was positive. Routine blood tests were unremarkable and a radiograph of the ankle showed no evidence of bony injuries.

- 1 What is the most likely diagnosis?
- 2 What are the risk factors for this condition?
- 3 What would you expect to find on physical examination?
- 4 What further investigations would you do?
- 5 How would you manage this patient?

Submitted by Dominic Yue, Jasmine Ho, and Nawfal Al-Hadithy

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## STATISTICAL QUESTION

### Randomised controlled trials with full factorial designs

Researchers explored the effectiveness of three interventions in preventing falls among older people. The three interventions were group based exercise, home hazard management, and vision improvement. A randomised controlled trial with a full factorial design was used. The control treatment was no intervention. The study design allowed the effectiveness of each intervention to be evaluated plus exploration of their effects when combined. The researchers recruited 442 participants aged 70 years and over living at home in an urban community in Melbourne, Australia. The main outcome measure was self reported time to first fall after randomisation.

The researchers reported that group based exercise was the most effective single intervention in reducing the number of falls. Falls were further reduced by the addition of home hazard management or reduced vision management, or both.

How many treatment groups were there in the above randomised controlled trial that incorporated a full factorial design?

- a) Four
- b) Six
- c) Seven
- d) Eight

Submitted by Philip Sedgwick

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