

# Pulmonary embolism following total hip and knee arthroplasty

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I found the paper by Millar et al<sup>1</sup> of great interest as I have access to similar data from Burwood Hospital, Christchurch. Specifically the 90-day rate of pulmonary embolus (PE) after primary elective unilateral total hip and total knee arthroplasty surgery (THA and TKA) from 2004 to the current day. The data from 2004–13 has been published.<sup>2</sup>

Although the data sets are not directly comparable it is reassuring to see that the rate of PE after THA and TKA (as defined above) has declined in Christchurch with a similar pattern to Waitemata although from historically higher rates (Figure 1).

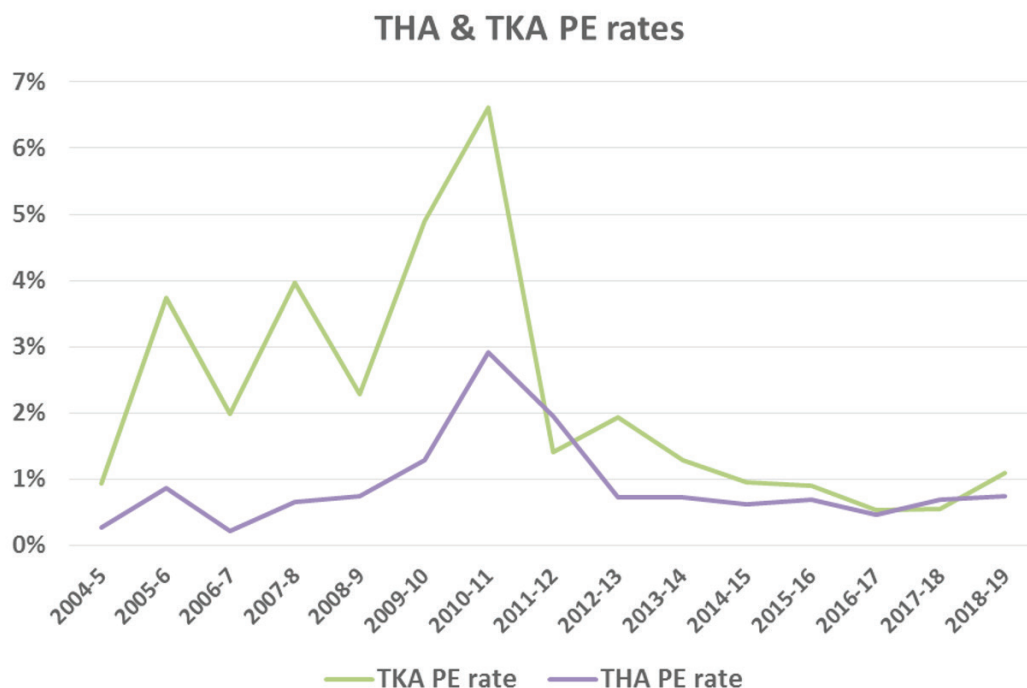
The reason for this reduction is not obvious and likely to be the result of multiple changes in practice. Routine VTE prophylaxis has primarily been aspirin for six weeks post-operatively and early mobilisation. In

2007, post-operative mechanical foot pumps were introduced, these are removed once the patient is deemed fully mobile. There has been a reduction in spinal anaesthesia (SA) (historically associated with lower VTE rates) from 70 to 30%; general anaesthesia (GA) has increased from 30 to 70%.

As in Waitemata, an Enhanced Recovery after Surgery programme was introduced in Christchurch; this occurred in 2014. Integral to this programme is day of surgery mobilisation (rather than traditional day 1 post-operative mobilisation). Local data demonstrates patients undergoing GA mobilise more rapidly than those undergoing SA.

One influence on the rate of recorded PEs could be the rate of CTPA requests/procedure.<sup>2</sup> The high sensitivity of CTPA correlates with higher 'PE' diagnosis after

Figure 1: Christchurch PE rates after THA and TKA.



THA or TKA. It would be instructive if the authors could comment on the rate of CTPA requests over time in relation to the described reduction in PE rates.

The authors do not describe how mortality data was collected in their series. They describe an all-cause mortality rate of 0.74%

at three months. Should this read VTE-related mortality? The **30-day** mortality after fractured hip surgery between 2011–16 was 8% in New Zealand.<sup>3</sup> Assuming no deaths in the THA and TKA groups, the expected overall 3-month mortality rate in the Waitemata 2013–16 series would be at least 2%.

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**Competing interests:**

Nil.

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