

# The use of Aprotinin in paediatric cardiac surgery, a national survey of the Congenital Cardiac Anaesthesia Network (CCAN)

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*Declaration of interest: none to declare*



Aprotinin has been shown to reduce blood loss and transfusion requirements in paediatric cardiac surgery<sup>1,2</sup>

There have been concerns about renal failure and anaphylaxis associated with Aprotinin use

Aprotinin use was suspended in the UK in 2007 over increased mortality rates in adults undergoing cardiac surgery<sup>3</sup>

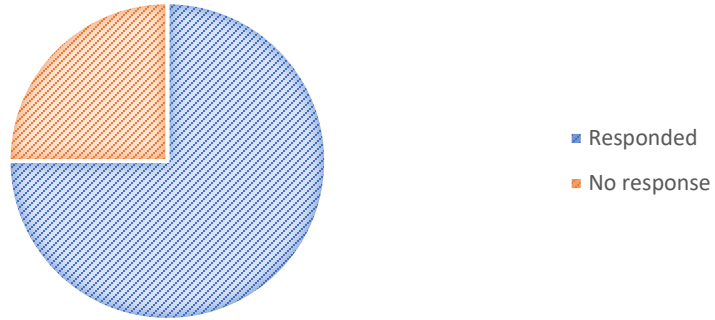
A recent systematic review found Aprotinin to be safe and effective in cardiac and other major paediatric surgery<sup>4</sup>

There is no evidence for an optimal Aprotinin dosing regime<sup>4</sup>

The aim of this survey is to gather information on the current usage of Aprotinin in paediatric cardiac surgery nationally

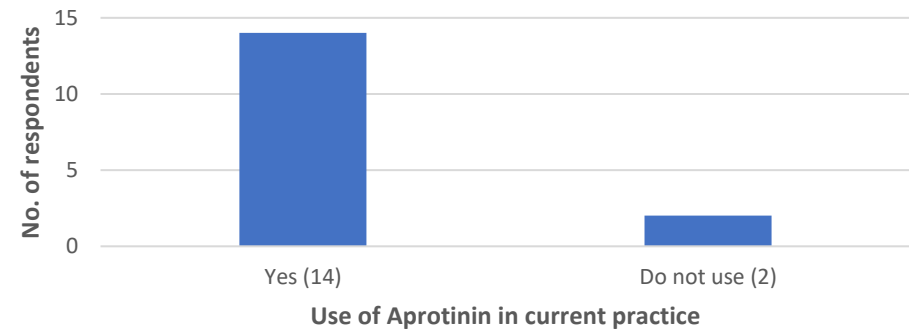
# 75% OF UK PAEDIATRIC CARDIAC CENTRES RESPONDED

## N= 16 RESPONSES IN TOTAL

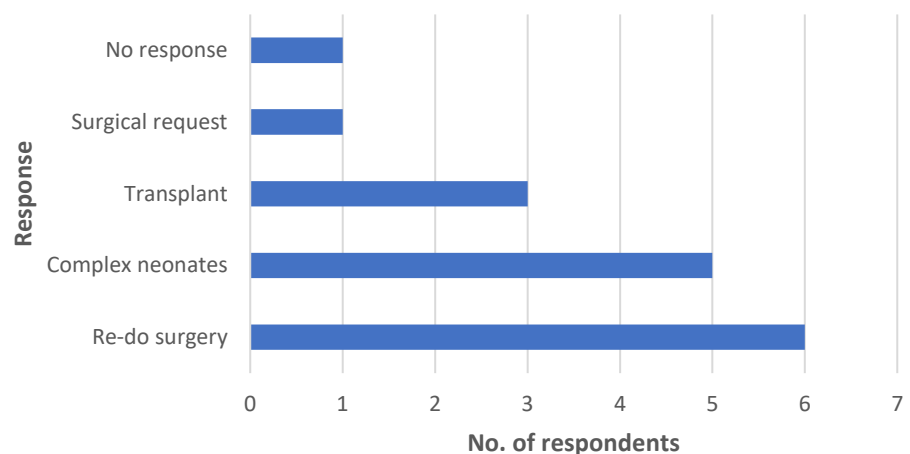


### No. of respondents using Aprotinin in their practice.

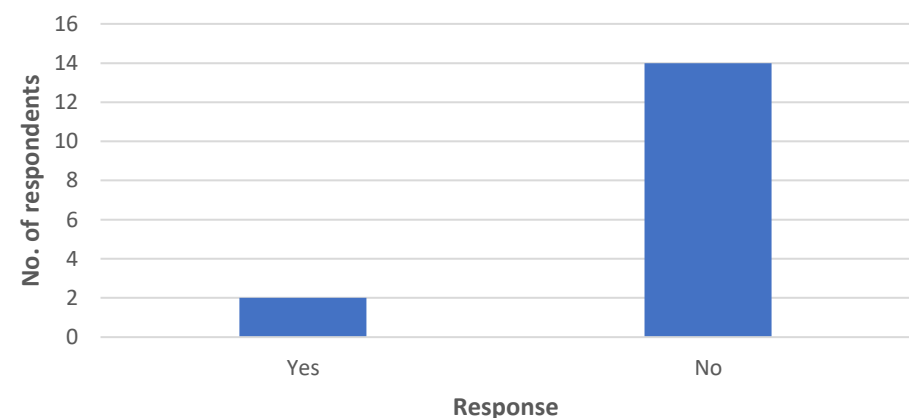
*Those that do not cite concerns about anaphylaxis and preference for other drugs.*



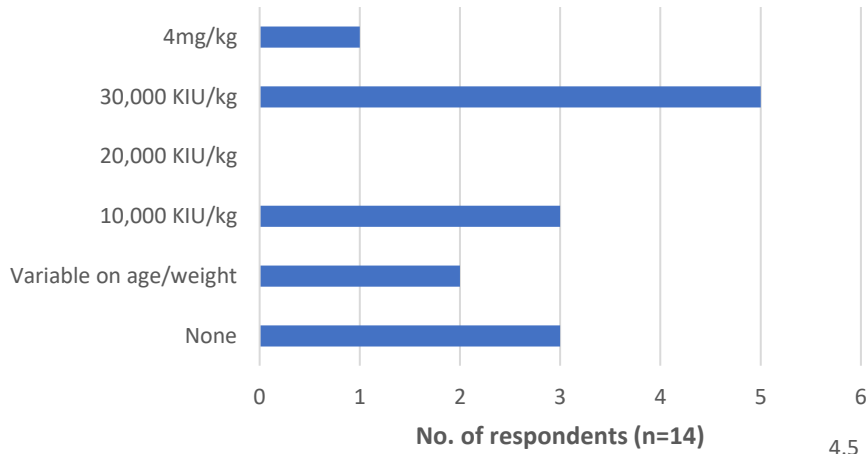
### Types of cases where Aprotinin is used



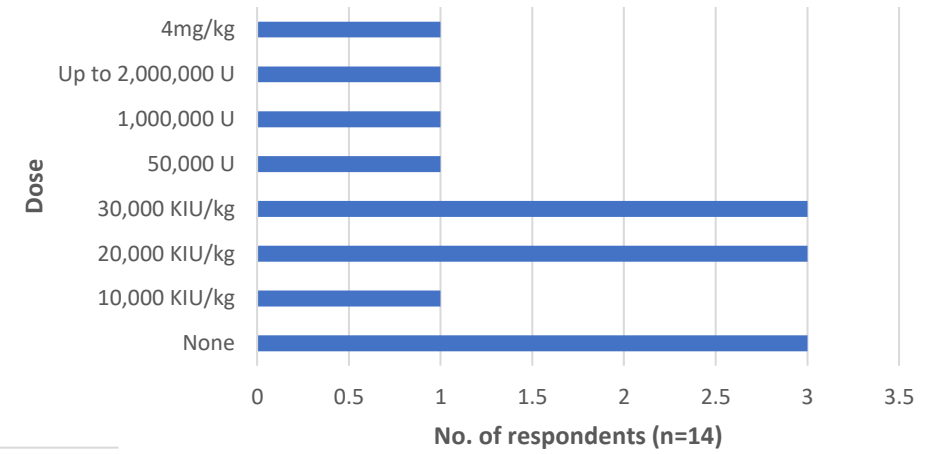
### Local institutional guideline on Aprotinin use available?



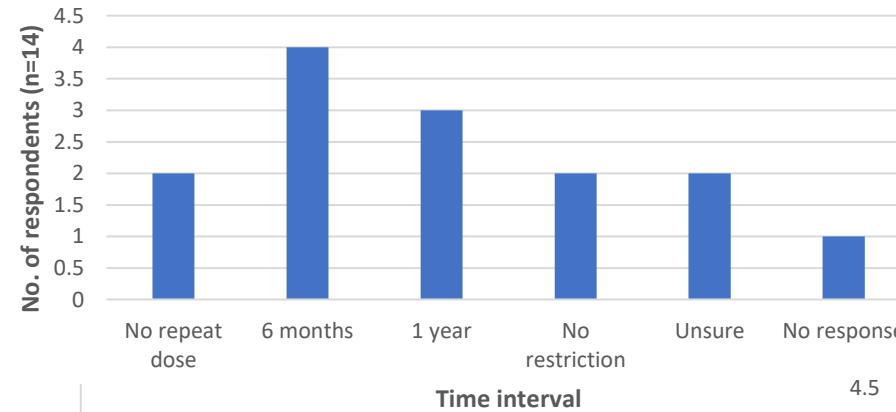
### Loading dose of Aprotinin used



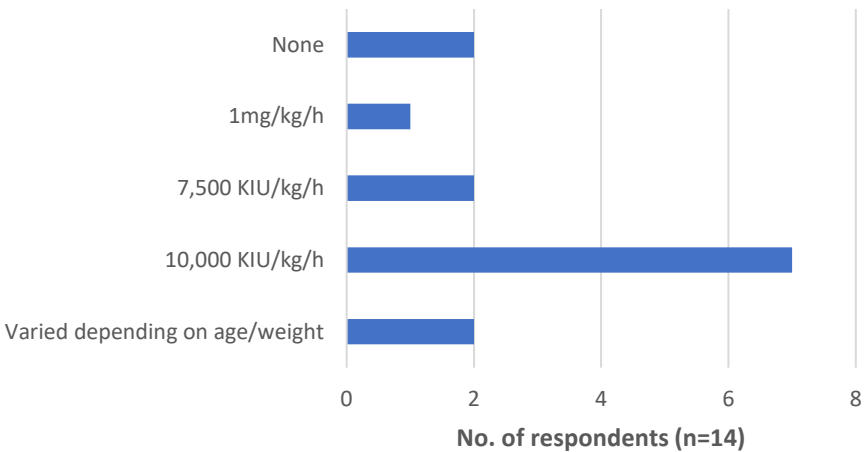
### Dose added to the prime



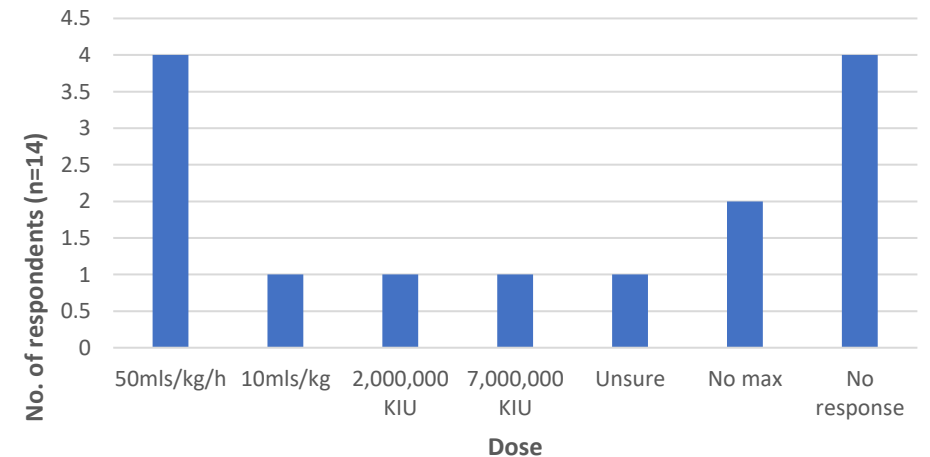
### What interval do you recommend before repeated administration of Aprotinin?



### Infusion rate used



### Maximum dose of Aprotinin used



Aprotinin has been shown to be effective in reducing bleeding in adult and paediatric cardiac surgery<sup>1</sup>

In the UK it is mainly used in cases where higher bleeding risk is anticipated

Our UK-wide survey found a paucity of guidance on dosing, and variable practice in all parameters of use

The benefits and safety of Aprotinin use in paediatric cardiac surgery may be optimised with the development of national guidance

**References:**

1. Royston D, Taylor KM, Bidstrup BP, Sapsford RN. Effect of aprotinin on need for blood transfusion after repeat open-heart surgery. *Lancet* 1987; 330: 1289–91
2. Breuer T, Martin K, Wilhelm M, et al. The blood sparing effect and the safety of aprotinin compared to tranexamic acid in paediatric cardiac surgery. *European Journal of Cardio-thoracic Surgery* 35 (2009) 167–171
3. V. McMullan, R. P. Alston, III. Aprotinin and cardiac surgery: a sorry tale of evidence misused, *BJA: British Journal of Anaesthesia*, Volume 110, Issue 5, May 2013, Pages 675–678
4. Thrane Hovgesen N, Brogaard Larsen J, Fenger-Eriksen C, et al. Efficacy and Safety of Antifibrinolytic Drugs in Pediatric Surgery: A Systematic Review. *Semin Thromb Hemost* 2021; 47(05): 538-568