

Summary of Findings

1. Studies with follow-up ≤ 1 year

Table 3. Summary of Findings – Comparison of thromboprophylaxis A versus thromboprophylaxis B with outcomes thrombosis, hemorrhage, mortality, ischemic stroke, quality of life (QOL) and adverse events

Population: Children with an indication for the Fontan procedure

Intervention: Thromboprophylaxis A (specified in table)

Comparator: Thromboprophylaxis B (specified in table)

Outcome	Study results and measurements	Absolute effect estimates		Certainty of the Evidence (Quality of evidence)	Summary
Aspirin versus warfarin					
		Aspirin	Warfarin		
Thrombotic complications (critical)	Relative risk: 1.26 (95% CI 0.25 to 6.29) Based on data from 155 participants in 1 study Follow-up: 30 days	5 per 100	4 per 100	Very low Due to risk of bias, due to very serious imprecision ¹	The evidence is very uncertain about the effect of aspirin on thrombotic complications, when compared with warfarin in children with an indication for the Fontan procedure (Ankola, 2021)
		Difference: 1 more per 100 (95% CI 6 fewer to 8 more)			
<ul style="list-style-type: none"> • Hemorrhage (important) • Mortality (important) • Ischemic stroke (important) • Quality of life (QOL) (important) • Adverse events (important) 	-	-		No GRADE (No evidence was found)	No evidence was found regarding the effect of aspirin on hemorrhage, mortality, ischemic stroke, quality of life (QOL), and adverse events, when compared with warfarin in children with an indication for the Fontan procedure
Aspirin versus enoxaparin					
		Aspirin	Enoxaparin		
Thrombotic complications (critical)	Relative risk: 0.63 (95% CI 0.08 to 4.99)	5 per 100	8 per 100		

	Based on data from 116 participants in 1 study Follow-up: 30 days	Difference: 3 fewer per 100 (95% CI 18 fewer to 12 more)		Very low Due to risk of bias, due to very serious imprecision ²	The evidence is very uncertain about the effect of aspirin on thrombotic complications, when compared with enoxaparin in children with an indication for the Fontan procedure (Ankola, 2021)
<ul style="list-style-type: none"> • Hemorrhage (important) • Mortality (important) • Ischemic stroke (important) • Quality of life (QOL) (important) • Adverse events (important) 	-	-		No GRADE (No evidence was found)	No evidence was found regarding the effect of aspirin on hemorrhage, mortality, ischemic stroke, quality of life (QOL), and adverse events, when compared with enoxaparin in children with an indication for the Fontan procedure
Warfarin versus enoxaparin					
		Warfarin	Enoxaparin		
Thrombotic complications (critical)	Relative risk: 0.50 (95% CI 0.05 to 5.10) Based on data from 65 participants in 1 study Follow-up: 30 days	4 per 100	8 per 100	Very low Due to risk of bias, due to very serious imprecision ³	The evidence is very uncertain about the effect of warfarin on thrombotic complications, when compared with enoxaparin in children with an indication for the Fontan procedure (Ankola, 2021)
<ul style="list-style-type: none"> • Hemorrhage (important) • Mortality (important) • Ischemic stroke (important) • Quality of life (QOL) (important) • Adverse events (important) 	-	-		No GRADE (No evidence was found)	No evidence was found regarding the effect of warfarin on hemorrhage, mortality, ischemic stroke, quality of life (QOL), and adverse events, when compared with enoxaparin in children with an indication for the Fontan procedure

Aspirin versus rivaroxaban						
		Aspirin	Rivaroxaban			
Thrombotic complications (critical)		Relative risk: 3.76 (95% CI 0.35 to 40.04) Based on data from 98 participants in 1 study Follow-up: 12 months	6 per 100	2 per 100	Very low Due to risk of bias, due to very serious imprecision ⁴	The evidence is very uncertain about the effect of aspirin on thrombotic complications, when compared with rivaroxaban in children with an indication for the Fontan procedure (McCrindle, 2021)
		Difference: 4 more per 100 (95% CI 4 fewer to 13 more)				
Hemorrhage (important)	Major bleeding	Relative risk: 0.62 (95% CI 0.03 to 14.80) Based on data from 98 participants in 1 study Follow-up: 12 months	0 per 100	2 per 100	Very low Due to risk of bias, due to very serious imprecision ⁵	The evidence is very uncertain about the effect of aspirin on major bleeding, when compared with rivaroxaban in children with an indication for the Fontan procedure (McCrindle, 2021)
			Difference: 2 fewer per 100 (95% CI 7 fewer to 4 more)			
		Clinically relevant nonmajor bleeding	Relative risk: 1.41 (95% CI 0.34 to 5.95) Based on data from 98 participants in 1 study Follow-up: 12 months	9 per 100	6 per 100	Very low Due to risk of bias, due to very serious imprecision ⁶
		Difference: 3 fewer per 100 (95% CI 9 fewer to 14 more)				
	Trivial bleeding	Relative risk: 1.08 (95% CI 0.61 to 1.91) Based on data from 98 participants in 1 study Follow-up: 12 months	35 per 100	33 per 100	Very low Due to risk of bias, due to very serious imprecision ⁷	The evidence is very uncertain about the effect of aspirin on trivial bleeding, when compared with rivaroxaban in children with an indication for the Fontan procedure (McCrindle, 2021)
		Difference: 2 more per 100 (95% CI 17 fewer to 22 more)				

Ischemic stroke (important)	Relative risk: 5.57 (95% CI 0.23 to 133.19)	3 per 100	0 per 100	Very low Due to risk of bias, due to very serious imprecision ⁸	The evidence is very uncertain about the effect of aspirin on ischemic stroke, when compared with rivaroxaban in children with an indication for the Fontan procedure (McCrindle, 2021)
	Based on data from 98 participants in 1 study Follow-up: 12 months	Difference: 3 more per 100 (95% CI 4 fewer to 10 more)			
Adverse events (important)	Relative risk: 0.99 (95% CI 0.84 to 1.18)	85 per 100	86 per 100	Moderate Due to risk of bias ⁹	There is likely little to no effect of aspirin on adverse events, when compared with rivaroxaban in children with an indication for the Fontan procedure (McCrindle, 2021)
	Based on data from 98 participants in 1 study Follow-up: 12 months	Difference: 1 fewer per 100 (95% CI 15 fewer to 14 more)			
<ul style="list-style-type: none"> Mortality (important) Quality of life (QOL) 	-	-	-	No GRADE (No evidence was found)	No evidence was found regarding the effect of aspirin on mortality, and quality of life (QOL), when compared with rivaroxaban in children with an indication for the Fontan procedure

- Risk of bias: some concerns (-1 level).** No exclusion criteria were defined, and it is unclear whether the outcomes of interest were not present at the start of the study. **Imprecision: very serious (-2 levels).** The confidence interval crosses both borders of clinical relevance.
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2. Studies with follow-up > 1 year

Table 4. Summary of Findings – Comparison of thromboprophylaxis A versus thromboprophylaxis B with outcomes thrombosis, hemorrhage, mortality, ischemic stroke, quality of life (QOL) and adverse events

Population: Children with an indication for the Fontan procedure

Intervention: Thromboprophylaxis A (specified in table)

Comparator: Thromboprophylaxis B (specified in table)

Outcome		Study results and measurements	Absolute effect estimates		Certainty of the Evidence (Quality of evidence)	Summary
<i>Aspirin versus warfarin</i>						
			Aspirin	Warfarin		
Thrombotic complications (critical)		Relative risk: 1.42 (95% CI 0.35 to 40.04) Based on data from 1533 participants in 7 studies Follow-up: ≥ 24 months	19 per 100	9 per 100	Very low Due to risk of bias, due to very serious imprecision ¹	The evidence is very uncertain about the effect of aspirin on thrombotic complications, when compared with warfarin in children with an indication for the Fontan procedure (Al-Jazairi, 2019; Egbe, 2017; Iyengar, 2016; McCrindle, 2013; Pessotti, 2014; Potter, 2013; Seipelt, 2002)
			Difference: 5 more per 100 (95% CI 9 fewer to 19 more)			
Hemorrhage (important)	Major bleeding	Relative risk: 0.89 (95% CI 0.74 to 1.08) Based on data from 147 participants in 2 studies Follow-up: 2.5 years-13.6 years	12 per 100	14 per 100	Very low Due to risk of bias, due to serious imprecision ²	The evidence is very uncertain about the effect of aspirin on major bleeding, when compared with warfarin in children with an indication for the Fontan procedure (Al-Jazairi, 2019; McCrindle, 2013)
	Clinically relevant nonmajor bleeding	Relative risk: 0.45 (95% CI 0.20 to 1.01) Based on data from 32 participants in 1 study	31 per 100	69 per 100		

		Follow-up: 13.6 years (median)	(95% CI 70 fewer to 5 more)			(Al-Jazairi, 2019)
	Minor bleeding	Relative risk: 0.57 (95% CI 0.09 to 3.61)	27 per 100	49 per 100	Very low Due to risk of bias, due to very serious imprecision ⁴	The evidence is very uncertain about the effect of aspirin on minor bleeding, when compared with warfarin in children with an indication for the Fontan procedure (Al-Jazairi, 2019; McCrindle, 2013)
		Based on data from 243 participants in 2 studies Follow-up: 2.5 years-13.6 years	Difference: 22 fewer per 100 (95% CI 53 fewer to 10 more)			
Mortality (important)		Relative risk: 2.84 (95% CI 0.12 to 68.36)	2 per 100	0 per 100	Very low Due to risk of bias, due to very serious imprecision ⁵	The evidence is very uncertain about the effect of aspirin on mortality, when compared with warfarin in children with an indication for the Fontan procedure (McCrindle, 2013; Pessotti, 2014)
		Based on data from 111 participants in 1 study Follow-up: 2.5 years	Difference: 2 more per 100 (95% CI 3 fewer to 7 more)			
		Relative risk: 0.20 (95% CI 0.01 to 3.85)	0 per 100	13 per 100		
		Based on data from 30 participants in 1 study Follow-up: 2 years	Difference: 13 fewer per 100 (95% CI 33 fewer to 6 more)			
<ul style="list-style-type: none"> • Ischemic stroke (important) • Quality of life (QOL) (important) • Adverse events (important) 		-	-		No GRADE (No evidence was found)	No evidence was found regarding the effect of aspirin on ischemic stroke, quality of life (QOL), and adverse events, when compared with warfarin in children with an indication for the Fontan procedure
DOACs versus antiplatelets						
			DOACs	Antiplatelets		
Thrombotic complications (critical)		Relative risk: 0.17 (95% CI 0.01 to 3.18)	0 per 100	7 per 100		

		Based on data from 79 participants in 1 study Follow-up: 95 months (mean)	Difference: 7 fewer per 100 (95% CI 16 fewer to 2 more)		Very low Due to risk of bias, due to very serious imprecision ⁶	The evidence is very uncertain about the effect of DOACs on thrombotic complications, when compared with antiplatelets in children with an indication for the Fontan procedure (Kawamatsu, 2021)
Hemorrhage (important)	Major bleeding	Relative risk: 0.40 (95% CI 0.04 to 3.66)	3 per 100	7 per 100	Very low Due to risk of bias, due to very serious imprecision ⁷	The evidence is very uncertain about the effect of DOACs on major bleeding, when compared with antiplatelets in children with an indication for the Fontan procedure (Kawamatsu, 2021)
		Based on data from 79 participants in 1 study Follow-up: 95 months (mean)	Difference: 4 fewer per 100 (95% CI 14 fewer to 5 more)			
	Minor bleeding	Relative risk: 1.19 (95% CI 0.08 to 18.43)	3 per 100	2 per 100	Very low Due to risk of bias, due to very serious imprecision ⁸	The evidence is very uncertain about the effect of DOACs on minor bleeding, when compared with antiplatelets in children with an indication for the Fontan procedure (Kawamatsu, 2021)
		Based on data from 79 participants in 1 study Follow-up: 95 months (mean)	Difference: 0 per 100 (95% CI 7 fewer to 7 more)			
<ul style="list-style-type: none"> • Mortality (important) • Ischemic stroke (important) • Quality of life (QOL) (important) • Adverse events (important) 		-	-		No GRADE (No evidence was found)	No evidence was found regarding the effect of DOACs on mortality, ischemic stroke, quality of life (QOL), and adverse events, when compared with antiplatelets in children with an indication for the Fontan procedure
DOACs versus VKAs						
			DOACs	VKAs		
Thrombotic complications (critical)		Relative risk: 0.10 (95% CI 0.01 to 1.80)	0 per 100	12 per 100		

		Based on data from 77 participants in 1 study Follow-up: 95 months (mean)	Difference: 12 fewer per 100 (95% CI 23 fewer to 1 fewer)		Very low Due to risk of bias, due to very serious imprecision ⁹	The evidence is very uncertain about the effect of DOACs on thrombotic complications, when compared with VKAs in children with an indication for the Fontan procedure (Kawamatsu, 2021)
Hemorrhage (important)	Major bleeding	Relative risk: 0.19 (95% CI 0.02 to 1.50) Based on data from 77 participants in 1 study Follow-up: 95 months (mean)	3 per 100	15 per 100	Very low Due to risk of bias, due to very serious imprecision ¹⁰	The evidence is very uncertain about the effect of DOACs on major bleeding, when compared with VKAs in children with an indication for the Fontan procedure (Kawamatsu, 2021)
		Difference: 12 fewer per 100 (95% CI 24 fewer to 0 more)				
	Minor bleeding	Relative risk: 0.38 (95% CI 0.04 to 3.49) Based on data from 77 participants in 1 study Follow-up: 95 months (mean)	3 per 100	7 per 100	Very low Due to risk of bias, due to very serious imprecision ¹¹	The evidence is very uncertain about the effect of DOACs on major bleeding, when compared with VKAs in children with an indication for the Fontan procedure (Kawamatsu, 2021)
		Difference: 5 fewer per 100 (95% CI 14 fewer to 5 more)				
<ul style="list-style-type: none"> • Mortality (important) • Ischemic stroke (important) • Quality of life (QOL) (important) • Adverse events (important) 		-	-	-	No GRADE (No evidence was found)	No evidence was found regarding the effect of DOACs on mortality, ischemic stroke, quality of life (QOL), and adverse events, when compared with VKAs in children with an indication for the Fontan procedure
DOACs versus combination of an antiplatelet and anticoagulant						
			DOACs	Combination of an antiplatelet and anticoagulant		
		Relative risk: 1	0	0		

Thrombotic complications (critical)		Based on data from 50 participants in 1 study Follow-up: 95 months (mean)	per 100	per 100	Very low Due to risk of bias ¹²	The evidence is very uncertain about the effect of DOACs on thrombotic complications, when compared with a combination of an antiplatelet and anticoagulant in children with an indication for the Fontan procedure (Kawamatsu, 2021)
			Difference: 0 fewer per 100			
Hemorrhage (important)	Major bleeding	Relative risk: 0.05 (95% CI 0.01 to 0.35) Based on data from 50 participants in 1 study Follow-up: 95 months (mean)	3 per 100	57 per 100	Very low Due to risk of bias ¹³	The evidence is very uncertain about the effect of DOACs on major bleeding, when compared with a combination of an antiplatelet and an anticoagulant in children with an indication for the Fontan procedure (Kawamatsu, 2021)
	Minor bleeding	Relative risk: 1.22 (95% CI 0.05 to 28.21) Based on data from 50 participants in 1 study Follow-up: 95 months (mean)	3 per 100	0 per 100		
<ul style="list-style-type: none"> • Mortality (important) • Ischemic stroke (important) • Quality of life (QOL) (important) • Adverse events (important) 		-	-	-	No GRADE (No evidence was found)	No evidence was found regarding the effect of DOACs on mortality, ischemic stroke, quality of life (QOL), and adverse events, when compared with a combination of an antiplatelet and anticoagulant in children with an indication for the Fontan procedure
Antiplatelets versus VKAs						
			Antiplatelets	VKAs		
Thrombotic complications (critical)		Relative risk: 0.57 (95% CI 0.15 to 2.24)	7 per 100	12 per 100		

		Based on data from 84 participants in 1 study Follow-up: 95 months (mean)	Difference: 5 fewer per 100 (95% CI 18 fewer to 7 more)		Very low Due to risk of bias, due to very serious imprecision ¹⁵	The evidence is very uncertain about the effect of antiplatelets on thrombotic complications, when compared with VKAs in children with an indication for the Fontan procedure (Kawamatsu, 2021)
Hemorrhage (important)	Major bleeding	Relative risk: 0.48 (95% CI 0.13 to 1.78)	7 per 100	15 per 100	Very low Due to risk of bias, due to very serious imprecision ¹⁶	The evidence is very uncertain about the effect of antiplatelets on major bleeding, when compared with VKAs in children with an indication for the Fontan procedure (Kawamatsu, 2021)
		Based on data from 84 participants in 1 study Follow-up: 95 months (mean)	Difference: 8 fewer per 100 (95% CI 21 fewer to 7 more)			
	Minor bleeding	Relative risk: 0.32 (95% CI 0.03 to 2.93)	2 per 100	7 per 100	Very low Due to risk of bias, due to very serious imprecision ¹⁷	The evidence is very uncertain about the effect of antiplatelets on minor bleeding, when compared with VKAs in children with an indication for the Fontan procedure (Kawamatsu, 2021)
		Based on data from 84 participants in 1 study Follow-up: 95 months (mean)	Difference: 5 fewer per 100 (95% CI 14 fewer to 4 more)			
<ul style="list-style-type: none"> • Mortality (important) • Ischemic stroke (important) • Quality of life (QOL) (important) • Adverse events (important) 		-	-	-	No GRADE (No evidence was found)	No evidence was found regarding the effect of antiplatelets on mortality, ischemic stroke, quality of life (QOL), and adverse events, when compared with VKAs in children with an indication for the Fontan procedure
Antiplatelets versus combination of an antiplatelet and anticoagulant						
			Antiplatelets	Combination of an antiplatelet and anticoagulant		
		Relative risk: 2.39	7	0		

Thrombotic complications (critical)		(95% CI 0.03 to 2.93) Based on data from 57 participants in 1 study Follow-up: 95 months (mean)	per 100	per 100	Very low Due to risk of bias, due to very serious imprecision ¹⁸	The evidence is very uncertain about the effect of antiplatelets on thrombotic complications, when compared with a combination of an antiplatelet and an anticoagulant in children with an indication for the Fontan procedure (Kawamatsu, 2021)
			Difference: 7 more per 100 (95% CI 5 fewer to 19 more)			
Hemorrhage (important)	Major bleeding	Relative risk: 0.12 (95% CI 0.04 to 0.40) Based on data from 57 participants in 1 study Follow-up: 95 months (mean)	7 per 100	57 per 100	Very low Due to risk of bias ¹⁹	The evidence is very uncertain about the effect of antiplatelets on major bleeding, when compared with a combination of an antiplatelet and an anticoagulant in children with an indication for the Fontan procedure (Kawamatsu, 2021)
	Minor bleeding	Relative risk: 1.02 (95% CI 0.04 to 23.78) Based on data from 57 participants in 1 study Follow-up: 95 months (mean)	2 per 100	0 per 100		
			Difference: 50 fewer per 100 (95% CI 77 fewer to 23 fewer)		Very low Due to risk of bias, due to very serious imprecision ²⁰	The evidence is very uncertain about the effect of antiplatelets on major bleeding, when compared with a combination of an antiplatelet and an anticoagulant in children with an indication for the Fontan procedure (Kawamatsu, 2021)
			Difference: 2 fewer per 100 (95% CI 8 fewer to 13 more)			
<ul style="list-style-type: none"> • Mortality (important) • Ischemic stroke (important) • Quality of life (QOL) (important) • Adverse events (important) 		-	-	-	No GRADE (No evidence was found)	No evidence was found regarding the effect of antiplatelets on mortality, ischemic stroke, quality of life (QOL), and adverse events, when compared with a combination of an antiplatelet and anticoagulant in children with an indication for the Fontan procedure
VKAs versus combination of an antiplatelet and anticoagulant						
			VKAs	Combination of an antiplatelet		

				and anticoagulant		
Thrombotic complications (critical)		Relative risk: 3.93 (95% CI 0.23 to 66.86) Based on data from 55 participants in 1 study Follow-up: 95 months (mean)	12 per 100	0 per 100	Very low Due to risk of bias, due to very serious imprecision ²¹	The evidence is very uncertain about the effect of VKAs on thrombotic complications, when compared with a combination of an antiplatelet and an anticoagulant in children with an indication for the Fontan procedure (Kawamatsu, 2021)
		Difference: 12 more per 100 (95% CI 1 fewer to 26 more)				
Hemorrhage (important)	Major bleeding	Relative risk: 0.26 (95% CI 0.11 to 0.61) Based on data from 55 participants in 1 study Follow-up: 95 months (mean)	15 per 100	57 per 100	Very low Due to risk of bias ²²	The evidence is very uncertain about the effect of VKAs on major bleeding, when compared with a combination of an antiplatelet and an anticoagulant in children with an indication for the Fontan procedure (Kawamatsu, 2021)
			Difference: 43 fewer per 100 (95% CI 71 fewer to 14 fewer)			
	Minor bleeding	Relative risk: 2.50 (95% CI 0.14 to 45.62) Based on data from 55 participants in 1 study Follow-up: 95 months (mean)	7 per 100	0 per 100	Very low Due to risk of bias, due to very serious imprecision ²³	The evidence is very uncertain about the effect of VKAs on minor bleeding, when compared with a combination of an antiplatelet and an anticoagulant in children with an indication for the Fontan procedure (Kawamatsu, 2021)
		Difference: 7 fewer per 100 (95% CI 5 fewer to 20 more)				
<ul style="list-style-type: none"> • Mortality (important) • Ischemic stroke (important) • Quality of life (QOL) (important) • Adverse events (important) 		-	-		No GRADE (No evidence was found)	No evidence was found regarding the effect of VKAs on mortality, ischemic stroke, quality of life (QOL), and adverse events, when compared with a combination of an antiplatelet and anticoagulant in children with an indication for the Fontan procedure

21. **Risk of bias: some concerns (-1 level).** It is unclear whether the outcome of interest was not present at the start of the study, no proper confounder adjustment was conducted, co-interventions differed between the intervention groups. **Imprecision: very serious (-2 levels).** The confidence interval crosses both borders of clinical relevance.
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