Table 6. Summary of Findings – Hydratie en complicaties

Population: Patients with impaired renal function (chronic kidney disease, chronic renal failure, CKD stage 3 or higher, eGFR <60 ml/min/1.73m^2) undergoing radiological or cardiological examinations with iodine-containing contrast media.
Intervention: NaCl
Comparator: NaHCO3

Outcome Timeframe	**Study results and measurements**	**Absolute effect estimates**		**Certainty of the evidence** (Quality of evidence)	**Conclusions**
		NaCl	NaHCO3		
Post-contrast acute kidney injury					
PC-AKI: Short schedule NaHCO3 vs. short schedule NaCl	Relative risk: 0.89 (CI 95% 0.57 – 1.39) Based on data from 2192 participants in 11 studies	**115** per 1000	**102** per 1000 Difference: **13 fewer per 1000** (CI 95% 49 fewer – 45 more)	**Very low GRADE** Due to serious inconsistency, due to very serious imprecision[1]	The evidence is very uncertain about the effect of NaCl on post-contrast acute kidney injury when compared with NaHCO3 in patients with impaired renal function undergoing radiological or cardiological examinations with iodine-containing contrast media.
PC-AKI: Short schedule NaHCO3 vs. long schedule NaCl	Relative risk: 1.23 (CI 95% 0.81 – 1.87) Based on data from 2369 participants in 9 studies	**78** per 1000	**96** per 1000 Difference: **18 more per 1000** (CI 95% 15 fewer – 68 more)	**Very low GRADE** Due to serious inconsistency, due to very serious imprecision[1]	
PC-AKI: All other hydration schedules comparing bicarbonate plus sodium chloride or bicarbonate only to either sodium chloride or bicarbonate only	Based on data from 6 studies	Studies identified before 2017 varied in their estimates (see results above). Weisbord (2018) reported a risk difference of -0.01 (95%CI -0.03 to 0.00).		**Very low GRADE** Due to serious inconsistency, due to very serious imprecision[1]	

PC-AKI: NaHCO3 (ultrashort schedule) precontrast versus pre- and post-CM hydration with NaCl	Based on data from 1 study	Kooiman (2014) reported a risk difference of -0.02 (95%CI -0.05 to 0.01)	**Very low GRADE** Due to serious indirectness, due to very serious imprecision[2]	
Start renal replacement therapy (RRT)				
Start RRT: Short schedule NaHCO3 vs. short schedule NaCl	Based on data from 9 studies	Studies identified before 2017 varied in their estimates (see table 5) Boccalandro (2020) reported a risk difference of -0.01 (95%CI -0.05 to 0.03)	**Very low GRADE** Due to serious inconsistency, due to very serious imprecision[3]	The evidence is very uncertain about the effect of NaCl on the start of renal replacement therapy when compared with NaHCO3 in patients with impaired renal function undergoing radiological or cardiological examinations with iodine-containing contrast media.
Start RRT: Short schedule NaHCO3 vs. long schedule NaCl	Based on data from 7 studies	Studies identified before 2017 varied in their estimates (see table 5)	**Very low GRADE** Due to serious inconsistency, due to very serious imprecision[3]	
Start RRT: All other hydration schedules comparing bicarbonate plus sodium chloride or bicarbonate only to either sodium chloride or bicarbonate only	Based on data from 5 studies	Studies identified before 2017 varied in their estimates (see table 5) Weisbord (2018) reported a risk difference of -0.00 (-0.01 to 0.01)	**Very low GRADE** Due to serious inconsistency, due to very serious imprecision[3]	
Start RRT: NaHCO3 (ultrashort schedule) precontrast versus pre- and post-CM hydration with NaCl	Based on data from 1 study	Kooiman (2014) reported that none of the patients who either received prehydration or pre-and posthydration had to start renal replacement therapy.	**Very low GRADE** Due to serious indirectness, due to very serious imprecision[2]	

Start renal replacement therapy – 1 year (important)	Based on data from 1 study	Boccalandro (2020) reported a risk difference of -0.02 (95%CI -0.04 to 0.01)	**Very low GRADE** Due to very serious imprecision[4]	The evidence is very uncertain about the effect of NaCl on the start of renal replacement therapy at 1 year follow-up when compared with NaHCO3 in patients with impaired renal function undergoing radiological or cardiological examinations with iodine-containing contrast media.
Start renal replacement therapy – 5 year (important)	Based on data from 1 study	Boccalandro (2020) reported a risk difference of 0.02 (-0.05 to 0.08)	**Very low GRADE** Due to very serious imprecision[4]	The evidence is very uncertain about the effect of NaCl on the start of renal replacement therapy at 5 year follow-up when compared with NaHCO3 in patients with impaired renal function undergoing radiological or cardiological examinations with iodine-containing contrast media.
Acute renal failure (important)	-	-	**No GRADE** (no evidence was found)	No evidence was found regarding the effect of NaCl on acute renal failure when compared with NaHCO3 in patients with impaired renal function undergoing radiological or cardiological examinations with iodine-containing contrast media.
Irreversible loss of kidney function (important)	Based on data from 1 study	Weisbord (2018) reported a risk difference of 0.00 (95%CI -0.00 to 0.01)	**Very low GRADE** Due to very serious imprecision[4]	The evidence is very uncertain about the effect of NaCl on irreversible loss of kidney function when compared with NaHCO3 in patients with impaired renal function undergoing radiological or cardiological examinations with iodine-containing contrast media.
Adverse events				

Adverse events: Short schedule NaHCO3 vs. short schedule NaCl	Based on data from 5 studies	Studies identified before 2017 varied in their estimates (see table 5). Boccalandro (2020) reported a risk difference of 0.01 (95%CI -0.06 to 0.08).	**Very low GRADE** Due to serious inconsistency, due to very serious imprecision[5]	The evidence is very uncertain about the effect of NaCl on adverse events when compared with NaHCO3 in patients with impaired renal function undergoing radiological or cardiological examinations with iodine-containing contrast media
Adverse events: Short schedule NaHCO3 vs. long schedule NaCl	Based on data from 4 studies	Studies identified before 2017 varied in their estimates (see table 5).	**Very low GRADE** Due to serious inconsistency, due to very serious imprecision[5]	
Adverse events: All other hydration schedules comparing bicarbonate plus sodium chloride or bicarbonate only to either sodium chloride or bicarbonate only	Based on data from 4 studies	Studies identified before 2017 varied in their estimates (see table 5). Weisbord (2018) reported a risk difference of -0.01 (95%CI -0.03 to 0.00)	**Very low GRADE** Due to serious inconsistency, due to very serious imprecision[5]	
Adverse events: NaHCO3 (ultrashort schedule) precontrast versus pre- and post-CM hydration with NaCl	Based on data from 1 study	Kooiman (2014) reported a risk difference of -0.03 (95%CI -0.10 to 0.05).	**Very low GRADE** Due to serious inconsistency, due to very serious imprecision[6]	

1. **Inconsistency**: **serious**. Due to conflicting results and heterogeneity
   Imprecision: **very serious**. Due to overlap of the upper and lower limit of the 95% confidence interval with the minimal clinically important difference
2. **Indirectness**: **serious**. Due to differences in the hydration type (pre- versus pre- and posthydration)
   Imprecision: **very serious**. Due to overlap of the upper and lower limit of the 95% confidence interval with the minimal clinically important difference
3. **Inconsistency: serious**. Due to conflicting results and heterogeneity
   Imprecision: very serious. Due to the optimal information size which was not achieved and the low number of events
4. **Imprecision: very serious**. Due to overlap of the upper and lower limit of the 95% confidence interval with the minimal clinically important difference and the optimal information size was not achieved.
5. **Inconsistency: serious**. Due to heterogeneity between the studies
   Imprecision: very serious. Due to the optimal information size which was not achieved and the low number of events
6. **Inconsistency: serious**. Due to differences in the hydration type (pre- versus pre- and posthydration)
   Imprecision: very serious. Due to the optimal information size which was not achieved and the low number of events