

# Wpw syndroom

## WPW SYNDROOM

Image not found

Active Image <https://medics4medics.eu/%3A//resize/wpw-313x175.gif>

### 1. Oorzaken

- ontstaat door stimulatie van de ventrikel via een accessoire AV-bundel = bundel van Kent
- geleiding kan anterograad, retrograad of in de 2 richtingen zijn
- er zijn 2-types:
  - type A: meest frequent (70%) = orthodrome WPW. Impuls gaat naar het ventrikel via de AV nodus en komt retrograad terug via de bundel van Kent. Hierdoor ontstaat een reëentry tachycardie.
  - Type B: antidrome WPW. De impuls loopt in omgekeerde richting.

### 2. Kliniek

- bij stabiele patient:
  - asymptomatisch
  - palpitations
  - dyspnee
  - nausea
  - duizeligheid
- bij instabiliteit
  - hypotensie
  - retrosternale pijn
  - BWZ-daling
  - reutels
- snelle pols

### 3. Diagnostiek

- bij elke supraventriculaire tachycardie moet je aan WPW denken
- ECG: diagnose op ECG na conversie tot sinusritme.
  - verlengd QRS ( $> 0,10$  seconden = 2,5 kleine vakjes).
  - Delta golf (kleine opwaartse hoek bij het begin van het QRS).
  - verkort PR interval ( $< 0,12$  seconden =  $< 3$  kleine vakjes)
- poliklinische oppuntstelling: verder plannen ablatie Kent bundels, heelkundig of met radioablatie.

### Eerste opvang

- IV lijn
- O2
- monitoring
- onstabiele patient
  - indien hypotensie: opvullen, trendelenburg, cardioversie, ALS
- vermijd volgende producten: calciumantagonisten, betablokkers, digoxine!!!!

### Spoeddienst

- is de patient stabiel?
  - indien neen: cardioversie, opvullen, trendelenburg, ALS
  - indien ja:

- small complex tachycardie regelmatig

- vagale manoeuvres

- adenosine: best alleen voor supraventriculaire tachycardie. Eerst snel 6 mg, zo nodig te herhalen na 2 minuten met 12 mg.

- bij slechte linker ventrikel functie

- cardioversie

- amiodarone (Cordarone) :eerst een bolus van 300 mg over 5 à 15 min, d.i. 2 amp opgelost in 20 cc glucose. Daarna het eerste uur 300mg/1u en de verdere 24 uur 900 mg/24u.

- bij een goede linker ventrikel functie

- amiodarone (Cordarone): eerst bolus 300mg/ 5-15 min opgelost in 20 cc glucose 5%. Dan 300mg over 1 uur en daarna 900 mg over 24 u.

- alternatief: Flecainide (Tambocor): 2 mg/kg tegen 10mg/min IV of 2 x 100mg PO

- alternatief: propafenon (Rytmonorm): 1-2 mg/kg tegen 10 mg/min IV of 450 - 600 mg/d PO in 2-3 giften.

- alternatief: Sotalol (Sotalex): cave nierinsufficiëntie. Bij opstarten is er een kans op torsades de Pointes dus goed monitoren. Dosage: 80 - 160 mg 2x/d PO

- alternatief: Procainamide (Pronestyl): hogere dosis: 100mg IV elke 5 minuten en bij succes een infuus à 1-4 mg/min

- breed complex tachycardie onregelmatig

- farmacoconversie:

- Lidocaine

- Amiodarone (Cordarone): eerst een bolus van 300 mg over 5-15 min opgelost in 20cc glucose. Daarna het eerste uur 300mg/1u gevolgd door 900mg/24u

- cardioversie:

- synchron: 100J, 200J, 360J

- alternatieven voor farmacoconversie bij goede linker ventrikelfunctie

- alternatief: Flecainide (Tambacor): 2 mg/kg tegen  
10mg/min IV of 2 x 100mg PO

- alternatief: propafenon (Rytmonorm): 1-2 mg/kg tegen  
10 mg/min IV of 450 - 600 mg/d PO in 2-3 giften.

- alternatief: Sotalol (Sotalex): cave nierinsufficiëntie. Bij  
opstarten is er een kans op torsades de Pointes dus goed  
monitoren. Dosage: 80 - 160 mg 2x/d PO

- alternatief: Procainamide (Pronestyl): hogere dosis: 100mg IV elke 5 minuten en bij succes een infuus à 1-4 mg/min

#### REFERENTIES:

- Mehta D, Wafa S, Ward DE, Camm AJ. Relative efficacy of various physical manoeuvres in the termination of junctional tachycardia. *Lancet* 1988; 1:1181.
- Belardinelli L, Linden J, Berne RM. The cardiac effects of adenosine. *Prog Cardiovasc Dis* 1989; 32:73.
- diMarco JP, Sellers TD, Lerman BB, et al. Diagnostic and therapeutic use of adenosine in patients with supraventricular tachyarrhythmias. *J Am Coll Cardiol* 1985; 6:417.
- DiMarco JP, Sellers TD, Berne RM, et al. Adenosine: electrophysiologic effects and therapeutic use for terminating paroxysmal supraventricular tachycardia. *Circulation* 1983; 68:1254.
- Exner DV, Muzyka T, Gillis AM. Proarrhythmia in patients with the Wolff-Parkinson-White

syndrome after standard doses of intravenous adenosine. *Ann Intern Med* 1995; 122:351.

- Dougherty AH, Gilman JK, Wiggins S, et al. Provocation of atrioventricular reentry tachycardia: a paradoxical effect of adenosine. *Pacing Clin Electrophysiol* 1993; 16:8.
- DiMarco JP, Miles W, Akhtar M, et al. Adenosine for paroxysmal supraventricular tachycardia: dose ranging and comparison with verapamil. Assessment in placebo-controlled, multicenter trials. The Adenosine for PSVT Study Group. *Ann Intern Med* 1990; 113:104.
- Rinkenberger RL, Prystowsky EN, Heger JJ, et al. Effects of intravenous and chronic oral verapamil administration in patients with supraventricular tachyarrhythmias. *Circulation* 1980; 62:996.
- Sung RJ, Elser B, McAllister RG Jr. Intravenous verapamil for termination of re-entrant supraventricular tachycardias: intracardiac studies correlated with plasma verapamil concentrations. *Ann Intern Med* 1980; 93:682.
- Jackman WM, Friday KJ, Fitzgerald DM, et al. Use of intracardiac recordings to determine the site of drug action in paroxysmal supraventricular tachycardia. *Am J Cardiol* 1988; 62:8L.
- Kowey PR, Friehling TD, Marinchak RA. Electrophysiology of beta blockers in supraventricular arrhythmias. *Am J Cardiol* 1987; 60:32D.
- Anderson S, Blanski L, Byrd RC, et al. Comparison of the efficacy and safety of esmolol, a short-acting beta blocker, with placebo in the treatment of supraventricular tachyarrhythmias. The Esmolol vs Placebo Multicenter Study Group. *Am Heart J* 1986; 111:42.
- Mandel WJ, Laks MM, Obayashi K, et al. The Wolff-Parkinson-White syndrome: pharmacologic effects of procaine amide. *Am Heart J* 1975; 90:744.
- Wellens HJ. The wide QRS tachycardia. *Ann Intern Med* 1986; 104:879.
- Smith TW. Digitalis. Mechanisms of action and clinical use. *N Engl J Med* 1988; 318:358.
- Kang KT, Potts JE, Radbill AE, et al. Permanent junctional reciprocating tachycardia in children: a multicenter experience. *Heart Rhythm* 2014; 11:1426.
- Dorostkar PC, Silka MJ, Morady F, Dick M 2nd. Clinical course of persistent junctional reciprocating tachycardia. *J Am Coll Cardiol* 1999; 33:366.
- January CT, Wann LS, Alpert JS, et al. 2014 AHA/ACC/HRS Guideline for the Management of Patients With Atrial Fibrillation: Executive Summary: A Report of the American College of Cardiology/American Heart Association Task Force on Practice Guidelines and the Heart Rhythm Society. *Circulation* 2014; 130:2071.
- Glatzer KA, Dorostkar PC, Yang Y, et al. Electrophysiological effects of ibutilide in patients with accessory pathways. *Circulation* 2001; 104:1933.
- Bianconi L, Boccadamo R, Pappalardo A, et al. Effectiveness of intravenous propafenone for conversion of atrial fibrillation and flutter of recent onset. *Am J Cardiol* 1989; 64:335.
- Suttorp MJ, Kingma JH, Jessurun ER, et al. The value of class IC antiarrhythmic drugs for acute conversion of paroxysmal atrial fibrillation or flutter to sinus rhythm. *J Am Coll Cardiol* 1990; 16:1722.
- Suttorp MJ, Kingma JH, Lie-A-Huen L, Mast EG. Intravenous flecainide versus verapamil for acute conversion of paroxysmal atrial fibrillation or flutter to sinus rhythm. *Am J Cardiol* 1989; 63:693.
- Krahn AD, Klein GJ, Yee R. A randomized, double-blind, placebo-controlled evaluation of the efficacy and safety of intravenously administered dofetilide in patients with Wolff-Parkinson-White syndrome. *Pacing Clin Electrophysiol* 2001; 24:1258.
- Garratt C, Antoniou A, Ward D, Camm AJ. Misuse of verapamil in pre-excited atrial fibrillation. *Lancet* 1989; 1:367.
- Gulamhusein S, Ko P, Carruthers SG, Klein GJ. Acceleration of the ventricular response during atrial fibrillation in the Wolff-Parkinson-White syndrome after verapamil. *Circulation* 1982; 65:348.
- McGovern B, Garan H, Ruskin JN. Precipitation of cardiac arrest by verapamil in patients with Wolff-Parkinson-White syndrome. *Ann Intern Med* 1986; 104:791.
- Boriani G, Biffi M, Frabetti L, et al. Ventricular fibrillation after intravenous amiodarone in Wolff-Parkinson-White syndrome with atrial fibrillation. *Am Heart J* 1996; 131:1214.
- Simonian SM, Lotfipour S, Wall C, Langdorf MI. Challenging the superiority of amiodarone for rate control in Wolff-Parkinson-White and atrial fibrillation. *Intern Emerg Med* 2010; 5:421.
- Sellers TD Jr, Bashore TM, Gallagher JJ. Digitalis in the pre-excitation syndrome. Analysis during

atrial fibrillation. *Circulation* 1977; 56:260.

- Jackman WM, Wang XZ, Friday KJ, et al. Catheter ablation of accessory atrioventricular pathways (Wolff-Parkinson-White syndrome) by radiofrequency current. *N Engl J Med* 1991; 324:1605.
- Kuck KH, Schlüter M, Geiger M, et al. Radiofrequency current catheter ablation of accessory atrioventricular pathways. *Lancet* 1991; 337:1557.
- Calkins H, Sousa J, el-Atassi R, et al. Diagnosis and cure of the Wolff-Parkinson-White syndrome or paroxysmal supraventricular tachycardias during a single electrophysiologic test. *N Engl J Med* 1991; 324:1612.
- Chen SA, Tai CT. Ablation of atrioventricular accessory pathways: current technique-state of the art. *Pacing Clin Electrophysiol* 2001; 24:1795.
- Calkins H, Langberg J, Sousa J, et al. Radiofrequency catheter ablation of accessory atrioventricular connections in 250 patients. Abbreviated therapeutic approach to Wolff-Parkinson-White syndrome. *Circulation* 1992; 85:1337.
- Scheinman MM, Huang S. The 1998 NASPE prospective catheter ablation registry. *Pacing Clin Electrophysiol* 2000; 23:1020.
- Aguinaga L, Primo J, Anguera I, et al. Long-term follow-up in patients with the permanent form of junctional reciprocating tachycardia treated with radiofrequency ablation. *Pacing Clin Electrophysiol* 1998; 21:2073.
- Rodriguez LM, Geller JC, Tse HF, et al. Acute results of transvenous cryoablation of supraventricular tachycardia (atrial fibrillation, atrial flutter, Wolff-Parkinson-White syndrome, atrioventricular nodal reentry tachycardia). *J Cardiovasc Electrophysiol* 2002; 13:1082.
- Blomström-Lundqvist C, Scheinman MM, Aliot EM, et al. ACC/AHA/ESC guidelines for the management of patients with supraventricular arrhythmias--executive summary: a report of the American College of Cardiology/American Heart Association Task Force on Practice Guidelines and the European Society of Cardiology Committee for Practice Guidelines (Writing Committee to Develop Guidelines for the Management of Patients With Supraventricular Arrhythmias). *Circulation* 2003; 108:1871.
- Wellens HJ. Should catheter ablation be performed in asymptomatic patients with Wolff-Parkinson-White syndrome? When to perform catheter ablation in asymptomatic patients with a Wolff-Parkinson-White electrocardiogram. *Circulation* 2005; 112:2201.
- Pappone C, Santinelli V. Should catheter ablation be performed in asymptomatic patients with Wolff-Parkinson-White syndrome? Catheter ablation should be performed in asymptomatic patients with Wolff-Parkinson-White syndrome. *Circulation* 2005; 112:2207.
- Chevalier P, Cadi F, Scridon A, et al. Prophylactic radiofrequency ablation in asymptomatic patients with Wolff-Parkinson-White is not yet a good strategy: a decision analysis. *Circ Arrhythm Electrophysiol* 2013; 6:185.
- Todd DM, Klein GJ, Krahn AD, et al. Asymptomatic Wolff-Parkinson-White syndrome: is it time to revisit guidelines? *J Am Coll Cardiol* 2003; 41:245.
- Pappone C, Vicedomini G, Manguso F, et al. Wolff-Parkinson-White syndrome in the era of catheter ablation: insights from a registry study of 2169 patients. *Circulation* 2014; 130:811.
- Pediatric and Congenital Electrophysiology Society (PACES), Heart Rhythm Society (HRS), American College of Cardiology Foundation (ACCF), et al. PACES/HRS expert consensus statement on the management of the asymptomatic young patient with a Wolff-Parkinson-White (WPW, ventricular preexcitation) electrocardiographic pattern: developed in partnership between the Pediatric and Congenital Electrophysiology Society (PACES) and the Heart Rhythm Society (HRS). Endorsed by the governing bodies of PACES, HRS, the American College of Cardiology Foundation (ACCF), the American Heart Association (AHA), the American Academy of Pediatrics (AAP), and the Canadian Heart Rhythm Society (CHRS). *Heart Rhythm* 2012; 9:1006.
- Crossen KJ, Lindsay BD, Cain ME. Reliability of retrograde atrial activation patterns during ventricular pacing for localizing accessory pathways. *J Am Coll Cardiol* 1987; 9:1279.
- Jackman WM, Friday KJ, Yeung-Lai-Wah JA, et al. New catheter technique for recording left free-wall accessory atrioventricular pathway activation. Identification of pathway fiber orientation. *Circulation* 1988; 78:598.

- Denes P, Wyndham CR, Amat-y-Leon F, et al. Atrial pacing at multiple sites in the Wolff-Parkinson-White syndrome. *Br Heart J* 1977; 39:506.
- Mitchell LB, Mason JW, Scheinman MM, et al. Recordings of basal ventricular preexcitation from electrode catheters in patients with accessory atrioventricular connections. *Circulation* 1984; 69:233.
- Chen X, Borggrefe M, Shenasa M, et al. Characteristics of local electrogram predicting successful transcatheter radiofrequency ablation of left-sided accessory pathways. *J Am Coll Cardiol* 1992; 20:656.
- Scheinman MM. Catheter ablation for cardiac arrhythmias, personnel, and facilities. North American Society of Pacing and Electrophysiology Ad Hoc Committee on Catheter Ablation. *Pacing Clin Electrophysiol* 1992; 15:715.
- Kay GN, Epstein AE, Dailey SM, Plumb VJ. Role of radiofrequency ablation in the management of supraventricular arrhythmias: experience in 760 consecutive patients. *J Cardiovasc Electrophysiol* 1993; 4:371.
- Calkins H, Yong P, Miller JM, et al. Catheter ablation of accessory pathways, atrioventricular nodal reentrant tachycardia, and the atrioventricular junction: final results of a prospective, multicenter clinical trial. The Atakr Multicenter Investigators Group. *Circulation* 1999; 99:262.
- Dagues N, Clague JR, Kottkamp H, et al. Radiofrequency catheter ablation of accessory pathways. Outcome and use of antiarrhythmic drugs during follow-up. *Eur Heart J* 1999; 20:1826.
- Chen SA, Hsia CP, Chiang CE, et al. Reappraisal of radiofrequency ablation of multiple accessory pathways. *Am Heart J* 1993; 125:760.
- Huang JL, Chen SA, Tai CT, et al. Long-term results of radiofrequency catheter ablation in patients with multiple accessory pathways. *Am J Cardiol* 1996; 78:1375.
- Schweikert RA, Saliba WI, Tomassoni G, et al. Percutaneous pericardial instrumentation for endo-epicardial mapping of previously failed ablations. *Circulation* 2003; 108:1329.
- Langberg JJ, Calkins H, Kim YN, et al. Recurrence of conduction in accessory atrioventricular connections after initially successful radiofrequency catheter ablation. *J Am Coll Cardiol* 1992; 19:1588.
- Dagues N, Clague JR, Lottkamp H, et al. Impact of radiofrequency catheter ablation of accessory pathways on the frequency of atrial fibrillation during long-term follow-up; high recurrence rate of atrial fibrillation in patients older than 50 years of age. *Eur Heart J* 2001; 22:423.
- Liu J, Dole LR. Late complete atrioventricular block complicating radiofrequency catheter ablation of a left posteroseptal accessory pathway. *Pacing Clin Electrophysiol* 1998; 21:2136.
- Seidl K, Hauer B, Zahn R, Senges J. Unexpected complete AV block following transcatheter ablation of a left posteroseptal accessory pathway. *Pacing Clin Electrophysiol* 1998; 21:2139.
- Kessler DJ, Pirwitz MJ, Horton RP, et al. Intracardiac shunts resulting from transeptal catheterization for ablation of accessory pathways in otherwise normal hearts. *Am J Cardiol* 1998; 82:391.
- Fitchet A, Turkie W, Fitzpatrick AP. Transeptal approach to ablation of left-sided arrhythmias does not lead to persisting interatrial shunt: a transesophageal echocardiographic study. *Pacing Clin Electrophysiol* 1998; 21:2070.
- Kocovic DZ, Harada T, Shea JB, et al. Alterations of heart rate and of heart rate variability after radiofrequency catheter ablation of supraventricular tachycardia. Delineation of parasympathetic pathways in the human heart. *Circulation* 1993; 88:1671.
- Psychari SN, Theodorakis GN, Koutelou M, et al. Cardiac denervation after radiofrequency ablation of supraventricular tachycardias. *Am J Cardiol* 1998; 81:725.
- Hamdan MH, Page RL, Wasmund SL, et al. Selective parasympathetic denervation following posteroseptal ablation for either atrioventricular nodal reentrant tachycardia or accessory pathways. *Am J Cardiol* 2000; 85:875.
- Cox JL, Gallagher JJ, Cain ME. Experience with 118 consecutive patients undergoing operation for the Wolff-Parkinson-White syndrome. *J Thorac Cardiovasc Surg* 1985; 90:490.
- Lawrie GM, Lin HT, Wyndham CR, DeBaKey ME. Surgical treatment of supraventricular arrhythmias. Results in 67 patients. *Ann Surg* 1987; 205:700.
- Johnson DC, Nunn GR, Richards DA, et al. Surgical therapy for supraventricular tachycardia, a potentially curable disorder. *J Thorac Cardiovasc Surg* 1987; 93:913.



- Holman WL, Kay GN, Plumb VJ, Epstein AE. Operative results after unsuccessful radiofrequency ablation for Wolff-Parkinson-White syndrome. *Am J Cardiol* 1992; 70:1490.
- Kim SS, Lal R, Ruffy R. Treatment of paroxysmal reentrant supraventricular tachycardia with flecainide acetate. *Am J Cardiol* 1986; 58:80.
- Ward DE, Jones S, Shinebourne EA. Use of flecainide acetate for refractory junctional tachycardias in children with the Wolff-Parkinson-White syndrome. *Am J Cardiol* 1986; 57:787.
- Ludmer PL, McGowan NE, Antman EM, Friedman PL. Efficacy of propafenone in Wolff-Parkinson-White syndrome: electrophysiologic findings and long-term follow-up. *J Am Coll Cardiol* 1987; 9:1357.
- Musto B, D'Onofrio A, Cavallaro C, Musto A. Electrophysiological effects and clinical efficacy of propafenone in children with recurrent paroxysmal supraventricular tachycardia. *Circulation* 1988; 78:863.
- Echt DS, Liebson PR, Mitchell LB, et al. Mortality and morbidity in patients receiving encainide, flecainide, or placebo. The Cardiac Arrhythmia Suppression Trial. *N Engl J Med* 1991; 324:781.
- Rosenbaum MB, Chiale PA, Ryba D, Elizari MV. Control of tachyarrhythmias associated with Wolff-Parkinson-White syndrome by amiodarone hydrochloride. *Am J Cardiol* 1974; 34:215.
- Wellens HJ, Lie KI, Bär FW, et al. Effect of amiodarone in the Wolff-Parkinson-White syndrome. *Am J Cardiol* 1976; 38:189.
- Feld GK, Nademanee K, Weiss J, et al. Electrophysiologic basis for the suppression by amiodarone of orthodromic supraventricular tachycardias complicating pre-excitation syndromes. *J Am Coll Cardiol* 1984; 3:1298.
- Chouty F, Coumel P. Oral flecainide for prophylaxis of paroxysmal atrial fibrillation. *Am J Cardiol* 1988; 62:35D.
- Antman EM, Beamer AD, Cantillon C, et al. Long-term oral propafenone therapy for suppression of refractory symptomatic atrial fibrillation and atrial flutter. *J Am Coll Cardiol* 1988; 12:1005.
- Kappenberger LJ, Fromer MA, Steinbrunn W, Shenasa M. Efficacy of amiodarone in the Wolff-Parkinson-White syndrome with rapid ventricular response via accessory pathway during atrial fibrillation. *Am J Cardiol* 1984; 54:330.
- Feld GK, Nademanee K, Stevenson W, et al. Clinical and electrophysiologic effects of amiodarone in patients with atrial fibrillation complicating the Wolff-Parkinson-White syndrome. *Am Heart J* 1988; 115:102.

## Voeg een nieuwe reactie toe

[Login](#) [1] of [registreer](#) [2] om te kunnen reageren

---

**Bron-URL:** <https://medics4medics.eu/nl/wpw-syndroom>

### Links

[1] <https://medics4medics.eu/nl/user/login?destination=node/%23comment-form>

[2] <https://medics4medics.eu/nl/user/register?destination=node/%23comment-form>