

Selected risk factors for preterm rupture of membranes (PPROM)	Risk associated
Previous PPROM	RR 3.3 (3-fold increased risk; absolute risk 13.5% vs. 4.1%) ¹
Previous PPROM leading to preterm birth	Risk of PPROM and preterm birth prior to 28 weeks gestation RR 13.5 (absolute risk 1.8% vs. 0.13%) ¹
Previous preterm delivery	OR 2.5 (2.5-fold increased risk) ²
Antepartum bleeding	aOR 2.8 ³
Gestational diabetes	aOR 1.87 ⁴
Pre-existing diabetes	aOR 2.2 ³
Nulliparity	aOR 2.52 ⁴
Pre-pregnancy BMI <18.5 kg/m ²	aOR 2.00 ⁴
Infection	OR 6 for intra-amniotic infection, OR 3.7 for urinary tract infection, OR 7.6 for gonorrhea infection ⁵
Bacterial vaginosis	OR 7.3 ⁶
Short interval of pregnancy (<6 months)	OR 1.8 ⁷
Cervical procedures	Cerclage: PPROM <24 weeks RR 2.03, PPROM <34 weeks RR 1.52, aOR 0.62 ⁸ LEEP: RR 2.37 ⁹
Amniocentesis	0.24% increased risk up to 14 days following procedure ¹⁰
Twin gestation	OR 2.1 ¹¹
Black women	aOR 1.9 ³
Hispanic women	aOR 1.7 ³
Cigarette smoking	OR 2.5 (2.5-fold increased risk) ²
Low level of education	aOR 2.39 ⁴
Polyhydramnios ¹²	

Supplementary Table 1: Selected risk factors for preterm premature rupture of membranes, Abbreviations: PPROM = preterm premature rupture of membranes, aOR = adjusted odds ratio, LEEP = loop electric excision procedure

References

- 1 Asrat T et al. Rate of recurrence of preterm premature rupture of membranes in consecutive pregnancies. *Am J Obstet Gynecol.* 1991;165(4):1111.
- 2 Harger JH et al. Risk factors for preterm premature rupture of fetal membranes: a multicenter case-control study. *Am J Obstet Gynecol.* 1990;163(1):130
- 3 Berkowitz GS, et al. Risk factors for preterm birth subtypes. *Epidemiology.* 1998;9(3):279
- 4 Bouvier D et al. Risk Factors and Outcomes of Preterm Premature Rupture of Membranes in a Cohort of 6968 Pregnant Women Prospectively Recruited. *J Clin Med.* 2019;8:1987
- 5 Ekwo EE, et al. Risks for premature rupture of amniotic membranes. *Int J Epidemiol.* 1993;22(3):495

- 6 Kurki T et al. Bacterial vaginosis in early pregnancy and pregnancy outcome. *Obstetrics & Gynecology*. 1992;80(2):173-177
- 7 Shree R, Caughey A, Chandrasekaran S. Short interpregnancy interval increases the risk of preterm premature rupture of membranes and early delivery. *J Matern Fetal Neonatal Med*. 2018;31(22):3014-3020
- 8 Rodriguez AM, Pastor A, Fox NS. The association between Shirodkar cerclage and preterm premature rupture of membranes in singleton pregnancies. *Am. J. Perinatol*. 2021;38(S01):e347-e350
- 9 Conner SN, Frey HA, Cahill AG, Macones GA, Colditz GA, Tuuli MG. Loop electrocervical excision procedure and risk of preterm birth: a systematic review and meta-analysis. *Obstet Gynecol*. 2014; 123(4):752-761
- 10 Hsu WW, Hsieh CJ, Lee CN, Chen CL, Ling MW, Kang J, et al. Complications after chorionic villous sampling and midtrimester amniocentesis: a 7-year national registry study. *J Formos Med Assoc*. 2019; 118(7):1107-1113
- 11 Mercer BM, Crocker LG, Pierce WF, Sibai BM. Clinical characteristics and outcome of twin gestation complicated by preterm premature rupture of membranes. *Am J Obstet Gynecol*. 1993; 168(5):1467-1473
- 12 Menon R, Richardson LS. Preterm prelabor rupture of the membranes: A disease of the fetal membranes. in *Seminars in Perinatology*. 409– 419. (2017).