

# Zatrzymania krążenia poza szpitalem – co wiemy



## Europejski Rejestr Zatrzymań Krążenia EuReCA



Grzegorz Cebula

Polska Rada Resuscytacji

Katedra Anestezjologii i Intensywnej Terapii UJCM

Aleksander Zeliaś

Zakład Hemodynamiki i Angiokardiografii

Instytutu Kardiologii UJCM

# Zatrzymanie krążenia / resuscytacja



2009

- 825 / 519 - 63%



2010

- 844 / 529 - 62%

# Dane demograficzne



## Wiek - średni

- 2009 – 66,4
- 2010 – 65,2

## Płeć (M/K)

- 2009 – 355 / 164 – 2,16
- 2010 – 350 / 179 – 1,95

# Lokalizacja NZK



2009

- Miejsce publiczne – 184 – 35,5%
- Dom – 335 – 64,5%

2010

- Miejsce publiczne – 173 – 32,7%
- Dom – 356 – 67,3%

# Mechanizm zatrzymania krążenia



2009

- Do defibrylacji: 121 / 519 - 23,3%
- Nie do defibrylacji: 283 / 519 - 54,5%
- Brak danych: 115 / 519 - 22,2%



2010

- Do defibrylacji: 129 / 529 - 24,9%
- Nie do defibrylacji: 249 / 529 - 47,1%
- Brak danych: 151 / 529 - 28,0%

# Przyczyna zatrzymania krążenia



2009

- Kardiogenna: 181 / 519 - 34,9%
  - Brak danych: 247 / 519 - 47,6%
  - Inna: 91 / 519 - 17,5%
- 82,5%



2010

- Kardiogenna: 149 / 529 - 28,2%
  - Brak danych: 279 / 529 - 52,7%
  - Inna: 101 / 529 - 19,1%
- 80,9%

# Przyjęcie do szpitala / ROSC



2009

- 228 / 519 - 43,9%



2010

- 200 / 529 - 37,8%



# RKO przez świadków



2009

- 96 / 519 - 18,5%



2010

- 136 / 529 - 25,7%





# EuReCa Results

	Austria	Belgium	CZ reg. 1	CZ reg. 2	Czech R.	France	Germany	Ireland	North-Holland 2008	North-Holland 2009	Poland	Sweden
Total population in the reported region	5,512,800	10,600,000	5,502,000	1,247,533	1,801,935	1,985,270	5,622,667	489,981	2,400,000	2,400,000	760,000	9,000,000
OHCA considered for resuscitation	1102	5671	834	1485	2319	1899	2267		1433	1365	825	
Incidence of OHCA considered for resuscitation / 100,000	19,77	53,50	150,43	119,03	128,69	95,65	40,32		59,71	56,88	108,5	
Resuscitation started	1031	5671	415	822	1237	1282	2202	213	1114	1162	519	3535
Incidence of started resuscitation / 100,000	18,49	53,50	74,86	65,89	68,65	64,58	39,16	43,47	46,42	48,42	68,29	39,28
Place of CA =Home (n)	547		251			870	1576	127	697	733	335	2246
Place of CA =Home (%)	53,06		60,48			67,86	71,57	59,62	62,57	63,08	64,50	63,54
Place of CA =Home / 100,000	9,81		45,27			43,82	28,03	25,92	29,04	30,54	44,08	24,96
Collapse witnessed (n)	1026		280			949	1454	119	847	852		2355
Collapse witnessed (%)	99,52		67,47			74,02	66,03	55,87	76,03	73,32		66,62
Collapse witnessed / 100,00	18,40		50,50			47,80	25,86	24,29	35,29	35,50		26,17
Bystander CPR (n)	114		174	445	619	332	476	65	665	727	96	1692
Bystander CPR (%)	11,06		41,93	54,14	50,04	25,90	21,62	30,52	59,69	62,56	18,50	47,86
Bystander CPR / 100,000	2,04		31,39	35,67	34,35	16,72	8,47	13,27	27,71	30,29	12,63	18,80
Cardiac cause (n)	836	4682	228			832	1486	176	993	1028	428	2081
Cardiac cause (%)	81,09	82,56	54,94			64,90	67,48	82,63	89,14	88,47	82,50	58,87
Incidence of started resuscitation in cardiac cause	15,00	44,17	41,13			41,91	26,43	35,92	41,38	42,83	56,32	23,12
non cardiac cause	191	989	92			450	554	35	121	132	91	1305
Incidence of started resuscitation in non cardiac cause	3,43	9,33	16,59			22,67	9,85	7,14	5,04	5,50	11,97	14,50
Any ROSC (all causes) (n)	361		161	253	414	311	953	33				
Any ROSC (all causes) (%)	35,01	0,00	38,80	30,78	33,47	24,26	43,28	15,49				
Incidence any ROSC (all causes) / 100,000	6,48	0,00	29,04	20,28	22,98	15,67	16,95	6,73				
ROSC CardiacC (n)	285		72			191	658	31				
ROSC CardiacC (%)	34,09	0,00	31,58			22,96	44,28	17,61				
Incidence of ROSC CC / 100,000	5,11	0,00	12,99			9,62	11,70	6,33				
ROSC non CardiacC	76		37			120	295	2				
Incidence of ROSC nCC / 100,000	1,36	0,00	6,67			6,04	5,25	0,41				

# EuReCa Results

	Andalusia	Belgium	CZ reg. 1	CZ reg. 2	Czech R.	France	Germany	Ireland	North-Holland 2008	North-Holland 2009	Poland	Sweden
Total population in the reported region	5.575.128	10.600.000	554.402	1.247.533	1.801.935	1.985.270	5.622.667	489.981	2.400.000	2.400.000	760.000	9.000.000
OHCA considered for resuscitation	102	5671	34	1485	2319	1899	2267		1433	1365	825	
Incidence of OHCA considered for resuscitation	1,77	53,50	6,14	119,03	128,69	95,65	40,32		59,71	56,88	108,5	
<b>Resuscitation started</b>	<b>1031</b>	<b>5671</b>	<b>415</b>	<b>822</b>	<b>1237</b>	<b>1282</b>	<b>2202</b>	<b>213</b>	<b>1114</b>	<b>1162</b>	<b>519</b>	<b>3535</b>
Incidence of started resuscitation / 100.000	18,49	53,50	74,86	65,89	68,65	64,58	39,16	43,47	46,42	48,42	68,29	39,28
Place of CA =Home (n)	547		251			870	1576	127	697	733	335	2246
Place of CA =Home (%)	53,06		60,48			67,86	71,57	59,62	62,57	63,08	64,50	63,54
Place of CA =Home / 100.000	9,81		45,27			43,82	28,03	25,92	29,04	30,54	44,08	24,96
Collapse witnessed (n)	1026		280			949	1454	119	847	852		2355
Collapse witnessed (%)	99,52		67,47			74,02	66,03	55,87	76,03	73,32		66,62
Collapse witnessed / 100.00	18,40		50,50			47,80	25,86	24,29	35,29	35,50		26,17
Bystander CPR (n)	114		174	445	619	332	476	65	665	727	96	1692
Bystander CPR (%)	11,06		41,93	54,14	50,04	25,90	21,62	30,52	59,69	62,56	18,50	47,86
Bystander CPR / 100.000	2,04		31,39	35,67	34,35	16,72	8,47	13,27	27,71	30,29	12,63	18,80
Cardiac cause (n)	836	4682	228			832	1486	176	993	1028	428	2081
Cardiac cause (%)	81,09	82,56	54,94			64,90	67,48	82,63	89,14	88,47	82,50	58,87
Incidence of started resuscitation in cardiac cause	15,00	44,17	41,13			41,91	26,43	35,92	41,38	42,83	56,32	23,12
non cardiac cause	191	989	92			450	554	35	121	132	91	1305
Incidence of started resuscitation in non cardiac cause	3,43	9,33	16,59			22,67	9,85	7,14	5,04	5,50	11,97	14,50
<b>Any ROSC (all causes) (n)</b>	<b>361</b>		<b>161</b>	<b>253</b>	<b>414</b>	<b>311</b>	<b>953</b>	<b>33</b>				
Any ROSC (all causes) (%)	35,01	0,00	38,80	30,78	33,47	24,26	43,28	15,49				
Incidence any ROSC (all causes) / 100.000	6,48	0,00	29,04	20,28	22,98	15,67	16,95	6,73				
ROSC CardiacC (n)	285		72			191	658	31				
ROSC CardiacC (%)	34,09	0,00	31,58			22,96	44,28	17,61				
Incidence of ROSC CC / 100.000	5,11	0,00	12,99			9,62	11,70	6,33				
ROSC non CardiacC	76		37			120	295	2				
Incidence of ROSC nCC / 100.000	1,36	0,00	6,67			6,04	5,25	0,41				

# EuReCa Results

	Andalusia	Belgium	CZ reg. 1	CZ reg. 2	Czech R.	France	Germany	Ireland	North-Holland 2008	North-Holland 2009	Poland	Sweden
Total population in the reported region	5.575.128	10.600.000	554.402	1.247.533	1.801.935	1.985.270	5.622.667	489.981	2.400.000	2.400.000	760.000	9.000.000
OHCA considered for resuscitation	1102	5671	834	1485	2319	1899	2267		1433	1365	825	
Incidence of OHCA considered for resuscitation	19,77	53,50	150,43	119,03	128,69	95,65	40,32		59,71	56,88	108,5	
<b>Resuscitation started</b>	<b>1031</b>	<b>5671</b>	<b>415</b>	<b>822</b>	<b>1237</b>	<b>1282</b>	<b>2202</b>	<b>213</b>	<b>1114</b>	<b>1162</b>	<b>519</b>	<b>3535</b>
Incidence of started resuscitation / 100.000	18,49	53,50	74,86	65,89	68,65	64,58	39,16	43,47	46,42	48,42	68,29	39,28
Place of CA =Home (n)	547		251			870	1576	127	697	733	335	2246
Place of CA =Home (%)	53,06		60,48			67,86	71,57	59,62	62,57	63,08	64,50	63,54
Place of CA =Home / 100.000	9,81		45,27			43,82	28,03	25,92	29,04	30,54	44,08	24,96
Collapse witnessed (n)	1026		280			949	1454	119	847	852		2355
Collapse witnessed (%)	9,52		67,47			74,02	66,03	55,87	76,03	73,32		66,62
Collapse witnessed / 100.00	18,40		50,50			47,80	25,86	24,29	35,29	30,50		26,17
Bystander CPR (n)	114		174	445	619	332	476	65	665	727	96	1692
Bystander CPR (%)	11,06		41,93	54,14	50,04	25,90	21,62	30,52	59,69	62,56	18,50	47,86
Bystander CPR / 100.000	2,04		31,39	35,67	34,35	16,72	8,47	13,27	27,71	30,29	12,63	18,80
Cardiac cause (n)	836	4682	228			832	1486	176	993	1028	428	2081
Cardiac cause (%)	81,09	82,56	54,94			64,90	67,48	82,63	89,14	88,47	82,50	58,87
Incidence of started resuscitation in cardiac cause	15,00	44,17	41,13			41,91	26,43	35,92	41,38	42,83	56,32	23,12
non cardiac cause	191	989	92			450	554	35	121	132	91	1305
Incidence of started resuscitation in non cardiac cause	3,43	9,33	16,59			22,67	9,85	7,14	5,04	5,50	11,97	14,50
<b>Any ROSC (all causes) (n)</b>	<b>361</b>		<b>161</b>	<b>253</b>	<b>414</b>	<b>311</b>	<b>953</b>	<b>33</b>				
Any ROSC (all causes) (%)	35,01	0,00	38,80	30,78	33,47	24,26	43,28	15,49				
Incidence any ROSC (all causes) / 100.000	6,48	0,00	29,04	20,28	22,98	15,67	16,95	6,73				
ROSC CardiacC (n)	285		72			191	658	31				
ROSC CardiacC (%)	34,09	0,00	31,58			22,96	44,28	17,61				
Incidence of ROSC CC / 100.000	5,11	0,00	12,99			9,62	11,70	6,33				
ROSC non CardiacC	76		37			120	295	2				
Incidence of ROSC nCC / 100.000	1,36	0,00	6,67			6,04	5,25	0,41				

# EuReCa Results

	Andalusia	Belgium	CZ reg. 1	CZ reg. 2	Czech R.	France	Germany	Ireland	North-Holland 2008	North-Holland 2009	Poland	Sweden
<b>Total population in the reported region</b>	<b>5.575.128</b>	<b>10.600.000</b>	<b>554.402</b>	<b>1.247.533</b>	<b>1.801.935</b>	<b>1.985.270</b>	<b>5.622.667</b>	<b>489.981</b>	<b>2.400.000</b>	<b>2.400.000</b>	<b>760.000</b>	<b>9.000.000</b>
OHCA considered for resuscitation	1102	5671	834	1485	2319	1899	2267		1433	1365	825	
Incidence of OHCA considered for resuscitation	19,77	53,50	150,43	119,03	128,69	95,65	40,32		59,71	56,88	108,5	
<b>Resuscitation started</b>	<b>1031</b>	<b>5671</b>	<b>415</b>	<b>822</b>	<b>1237</b>	<b>1282</b>	<b>2202</b>	<b>213</b>	<b>1114</b>	<b>1162</b>	<b>519</b>	<b>3535</b>
Incidence of started resuscitation / 100.000	18,49	53,50	74,86	65,89	68,65	64,58	39,16	43,47	46,42	48,42	68,29	39,28
Place of CA =Home (n)	547		251			870	1576	127	697	733	335	2246
Place of CA =Home (%)	53,06		60,48			67,86	71,57	59,62	62,57	63,08	64,50	63,54
Place of CA =Home / 100.000	9,81		45,27			43,82	28,03	25,92	29,04	30,54	44,08	24,96
Collapse witnessed (n)	1026		280			949	1454	119	847	852		2355
Collapse witnessed (%)	99,52		67,47			74,02	66,03	55,87	76,03	73,32		66,62
Collapse witnessed / 100.00	18,40		50,50			47,80	25,86	24,29	35,29	35,50		26,17
Bystander CPR (n)	114		174	445	619	332	476	65	665	727	96	1692
Bystander CPR (%)	11,06		41,93	54,14	50,04	25,90	21,62	30,52	59,69	62,56	18,50	47,86
Bystander CPR / 100.000	2,04		35,67	35,67	34,35	16,72	8,47	13,27	23,71	30,29	12,63	18,80
Cardiac cause (n)	826	4682	208			822	1488	176	1002	1028	428	2084
Cardiac cause (%)	81,09	82,56	54,94			64,90	67,48	82,63	89,14	88,47	82,50	58,87
Incidence of started resuscitation in cardiac cause	15,00	44,17	41,13			41,91	20,43	33,92	41,38	42,83	38,32	23,12
non cardiac cause	191	989	92			450	554	35	121	132	91	1305
Incidence of started resuscitation in non cardiac	3,43	9,33	16,59			22,67	9,85	7,14	5,04	5,50	11,97	14,50
<b>Any ROSC (all causes) (n)</b>	<b>361</b>		<b>161</b>	<b>253</b>	<b>414</b>	<b>311</b>	<b>953</b>	<b>33</b>				
Any ROSC (all causes) (%)	35,01	0,00	38,80	30,78	33,47	24,26	43,28	15,49				
Incidence any ROSC (all causes) / 100.000	6,48	0,00	29,04	20,28	22,98	15,67	16,95	6,73				
ROSC CardiacC (n)	285		72			191	658	31				
ROSC CardiacC (%)	34,09	0,00	31,58			22,96	44,28	17,61				
Incidence of ROSC CC / 100.000	5,11	0,00	12,99			9,62	11,70	6,33				
ROSC non CardiacC	76		37			120	295	2				
Incidence of ROSC nCC / 100.000	1,36	0,00	6,67			6,04	5,25	0,41				

# EuReCa Results

	Andalusia	Belgium	CZ reg. 1	CZ reg. 2	Czech R.	France	Germany	Ireland	North-Holland 2008	North-Holland 2009	Poland	Sweden
<b>Total population in the reported region</b>	5.575.128	10.600.000	554.402	1.247.533	1.801.935	1.985.270	5.622.667	489.981	2.400.000	2.400.000	760.000	9.000.000
OHCA considered for resuscitation	1102	5671	834	1485	2319	1899	2267		1433	1365	844	
Incidence of OHCA considered for resuscitation	19,77	53,50	150,43	119,03	128,69	95,65	40,32		59,71	56,88	111,05	
<b>Resuscitation started</b>	<b>1031</b>	<b>5671</b>	<b>415</b>	<b>822</b>	<b>1237</b>	<b>1282</b>	<b>2202</b>	<b>213</b>	<b>1114</b>	<b>1162</b>	<b>499</b>	<b>3535</b>
Incidence of started resuscitation / 100.000	18,49	53,50	74,86	65,89	68,65	64,58	39,16	43,47	46,42	48,42	65,66	39,28
<b>Any ROSC (all causes) (n)</b>	<b>361</b>		<b>161</b>	<b>253</b>	<b>414</b>	<b>311</b>	<b>953</b>	<b>33</b>				
Any ROSC (all causes) (%)	35,01	0,00	38,80	30,78	33,47	24,26	43,28	15,49				
Incidence any ROSC (all causes) / 100.000	6,48	0,00	29,04	20,28	22,98	15,67	16,95	6,73				
ROSC CardiacC (n)	285		72			191	658	31				
ROSC CardiacC (%)	34,09	0,00	31,58			22,96	44,28	17,61				
Incidence of ROSC CC / 100.000	5,11	0,00	12,99			6,2	11,70	6,33				
ROSC non CardiacC	76		37			120	295	2				
Incidence of ROSC nCC / 100.000	1,36	0,00	6,67			4,04	5,25	0,41				
<b>Admitted to hospital (all causes) (n)</b>	<b>327</b>	<b>1875</b>	<b>143</b>	<b>240</b>	<b>383</b>	<b>304</b>	<b>897</b>	<b>69</b>	<b>442</b>	<b>346</b>	<b>228</b>	<b>829</b>
Admitted to hospital (all causes) (%)	32,69	33,06	34,46	29,20	30,96	23,71	40,74	32,39	39,68	29,78	43,90	23,45
Incidence of admitted to hospital (all causes) / 100.000	6,04	17,69	25,79	19,24	21,25	15,31	15,95	14,08	18,42	14,42	30,00	9,21
Admitted to hospital CC	265	1525	81			189	617	56	397	304	197	531
Incidence admitted to hospital CC / 100.000	4,75	14,39	14,61			9,52	10,97	11,43	16,54	12,67	25,92	5,90
Admitted to hospital nCC	72	350	32			108	280	13	45	42	31	263
Incidence admitted to hospital nCC / 100.000	1,29	3,30	5,77			5,44	4,98	2,65	1,88	1,75	4,08	2,92
<b>Discharged from hospital CC</b>	<b>94</b>					<b>53</b>	<b>57</b>	<b>14</b>	<b>226</b>	<b>176</b>		<b>263</b>
Incidence discharged from hospital CC / 100.000	1,69					2,67	1,01	2,86	9,42	7,33		2,92
Discharged from hospital nCC	14					6	15		18	11		78
Incidence discharged from hospital nCC / 100.000	0,25					0,30	0,27		0,75	0,46		

# EuReCa Results

	Andalusia	Belgium	CZ reg. 1	CZ reg. 2	Czech R.	France	Germany	Ireland	North-Holland 2008	North-Holland 2009	Poland	Sweden
<b>Total population in the reported region</b>	5.575.128	10.600.000	554.402	1.247.533	1.801.935	1.985.270	5.622.667	489.981	2.400.000	2.400.000	760.000	9.000.000
OHCA considered for resuscitation	1102	5671	834	1485	2319	1899	2267		1433	1365	844	
Incidence of OHCA considered for resuscitation	19,77	53,50	150,43	119,03	128,69	95,65	40,32		59,71	56,88	111,05	
<b>Resuscitation started</b>	<b>1031</b>	<b>5671</b>	<b>415</b>	<b>822</b>	<b>1237</b>	<b>1282</b>	<b>2202</b>	<b>213</b>	<b>1114</b>	<b>1162</b>	<b>499</b>	<b>3535</b>
Incidence of started resuscitation / 100.000	18,49	53,50	74,86	65,89	68,65	64,58	39,16	43,47	46,42	48,42	65,66	39,28
<b>Any ROSC (all causes) (n)</b>	<b>361</b>		<b>161</b>	<b>253</b>	<b>414</b>	<b>311</b>	<b>953</b>	<b>33</b>				
Any ROSC (all causes) (%)	35,01	0,00	38,80	30,78	33,47	24,26	43,28	15,49				
Incidence any ROSC (all causes) / 100.000	6,48	0,00	29,04	20,28	22,98	15,67	16,95	6,73				
ROSC CardiacC (n)	285		72			191	658	31				
ROSC CardiacC (%)	34,09	0,00	31,58			22,96	44,28	17,61				
Incidence of ROSC CC / 100.000	5,11	0,00	12,99			9,62	11,70	6,33				
ROSC non CardiacC	76		37			120	295	2				
Incidence of ROSC nCC / 100.000	1,36	0,00	6,67			6,04	5,25	0,41				
<b>Admitted to hospital (all causes) (n)</b>	<b>337</b>	<b>1875</b>	<b>143</b>	<b>240</b>	<b>383</b>	<b>304</b>	<b>897</b>	<b>69</b>	<b>442</b>	<b>346</b>	<b>228</b>	<b>829</b>
Admitted to hospital (all causes) (%)	32,69	33,06	34,46	29,20	30,96	23,71	40,74	32,39	39,68	29,78	43,90	23,45
Incidence of admitted to hospital (all causes) / 100.000	6,04	17,69	25,79	19,24	21,25	15,31	15,95	14,08	18,42	14,42	30,00	9,21
Admitted to hospital CC	265	1525	81			189	617	56	397	304	197	531
Incidence admitted to hospital CC / 100.000	4,75	14,39	14,61			9,52	10,97	11,43	16,54	12,67	25,92	5,90
Admitted to hospital nCC	72	350	32			108	280	13	45	42	31	263
Incidence admitted to hospital nCC / 100.000	1,29	3,30	5,77			5,44	4,98	2,65	1,88	1,75	4,08	2,92
<b>Discharged from hospital CC</b>	<b>94</b>					<b>53</b>	<b>57</b>	<b>14</b>	<b>226</b>	<b>17</b>		<b>263</b>
Incidence discharged from hospital CC / 100.000	1,69					2,67	1,01	2,86	9,42	7,3		2,92
Discharged from hospital nCC	14					6	15		18			78
Incidence discharged from hospital nCC / 100.000	0,25					0,30	0,27		0,75	0,4		

