

Career development in EP. Do we have an issue in Europe?



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Disclosure Statement

Research Grants	Biosense Webster, Stereotaxis, Medtronic, St. Jude, Cordis, Prorhythm, Cryocath
Consultant / Advisory Board	St. Jude, Edwards, Stereotaxis
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Speaker's Bureau Honoraria	None
Fellowship Support	None
Other	None
Off-label drugs/devices	None

Definition - Career

- **Wikipedia –**

Course or progress through life

- **Bussiness dictionary –**

The progress and action taken by a person throughout a lifetime, especially those related to that person's occupations

Career in EP

- **First issue –**

Person has to become an EP

Career in EP

- **The electrophysiologist education lasts approximately 15 to 16 years, including college through EP fellowship –**
- **Education and Certification**
 - lengthy academic training. First, must obtain a bachelor's degree from an accredited four-year college or university, then enroll in medical school. Completion of four years medical school followed by a three-year residency in internal medicine, a three-year clinical cardiology fellowship and finally a one- to two-year fellowship in cardiac electrophysiology.

Career in EP

- **Significant Professional Responsibilities and Mental and Technical Skills –**
 - **Complex interventions in LA**
 - **VT**

Career in EP

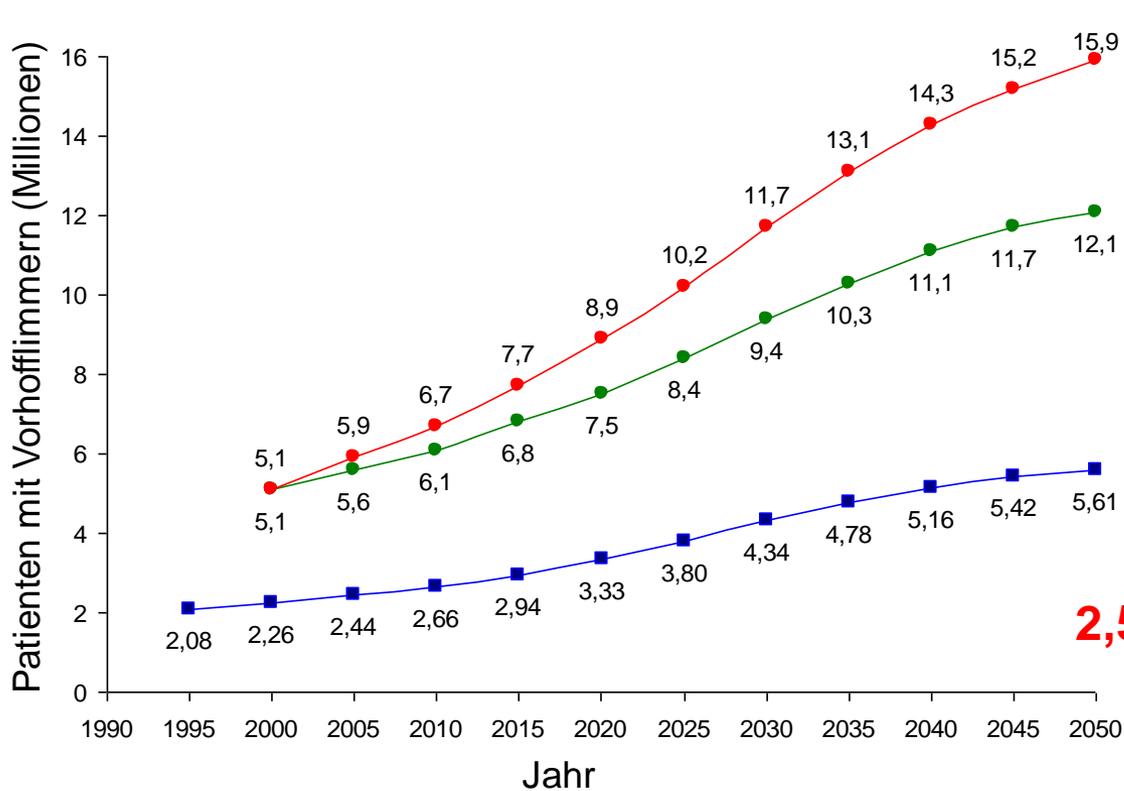
- From the historical perspective – 25 years ago – EP was a niche specialty:
- Good for a few people (somewhat crazy people)
- Good for a few congenital arrhythmias such as AVNT, AVRT etc.

Career in EP

- **Job Outlook and Salary**

- The Bureau of Labor Statistics (BLS) projects a faster-than-average job growth rate for cardiovascular technologists and technicians for the decade between 2008 and 2018. This translates to a job growth rate of 24 percent, a jump up from the 11 percent national average job growth rate for all occupations. The BLS states that those with multiple credentials and diverse job experiences within the field will benefit the most from this job growth. The demand may result from an aging population with an inherently high prevalence of heart disease. An increase in ultrasound imaging and radiology as methods of diagnosis will continue to provide a boost for the job growth rate throughout the decade. According to Indeed.com, the average salary for a cardiac electrophysiologist is \$107,000 as of May 2010.

Projizierte Anzahl von Patienten mit Vorhofflimmern (AF) in den USA bis 2050 („Vorhofflimmer-Epidemie“)



Daten der Mayo Clinic²
unter Annahme eines
fortgesetzten Anstiegs der AF-Inzidenz

Daten der Mayo Clinic²
unter Annahme
keines weiteren Anstiegs der AF-Inzidenz

Daten der ATRIA Studie¹

2,5- bis 3-facher Anstieg bis 2050

- Anstieg der Inzidenz von AF
- Alterung der Bevölkerung
- Zunahme der Bevölkerungsgröße
- Zunahme der Prävalenz von Risikofaktoren für AF

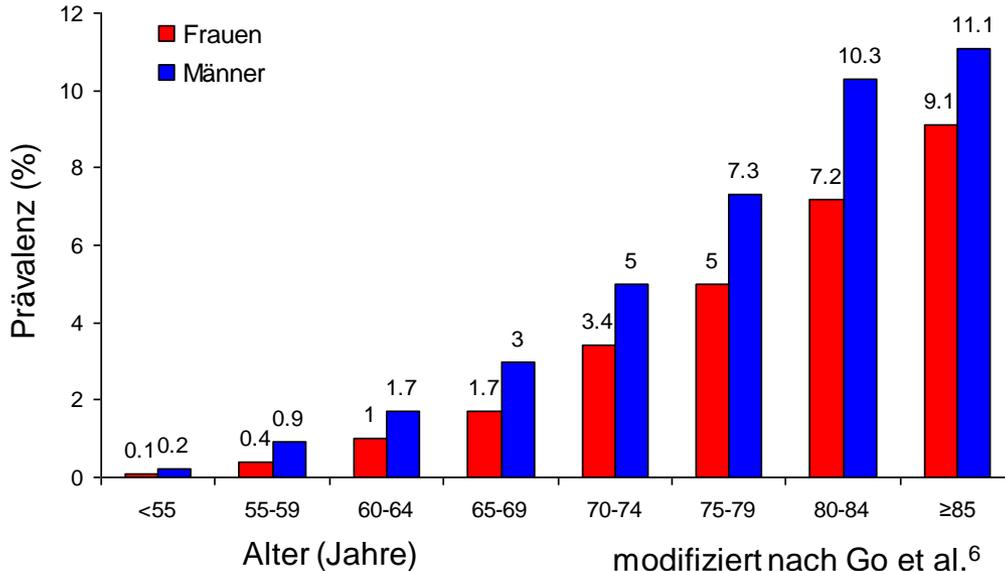
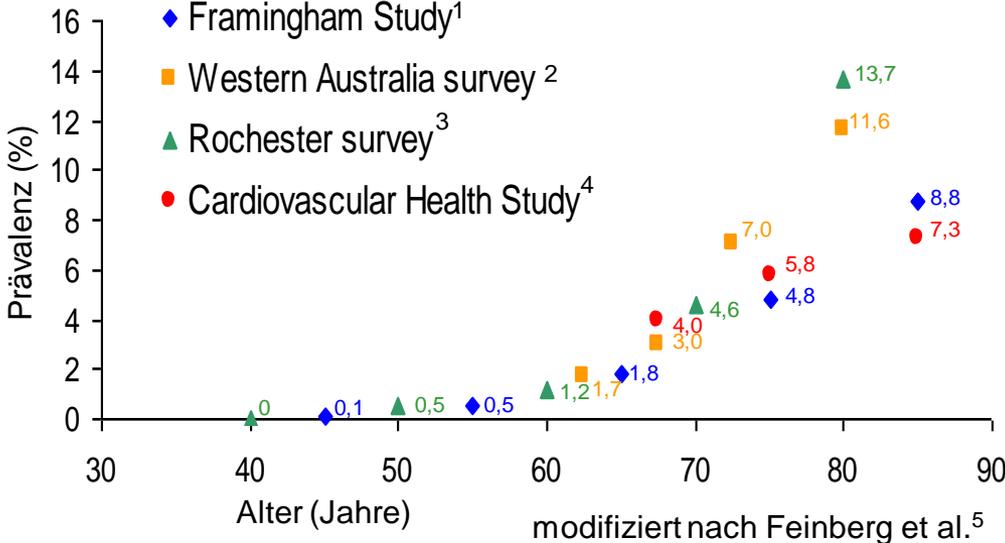
modifiziert nach Go et al.¹, Miyasaka et al.², Savelieva et al.³

1 Go AS et al., JAMA 2001;285:2370-5

2 Miyasaka Y et al., Circulation 2006;114:119-25

3 Savelieva I, Camm J, Clin Cardiol 2008;31:55-62

Prävalenz von Vorhofflimmern

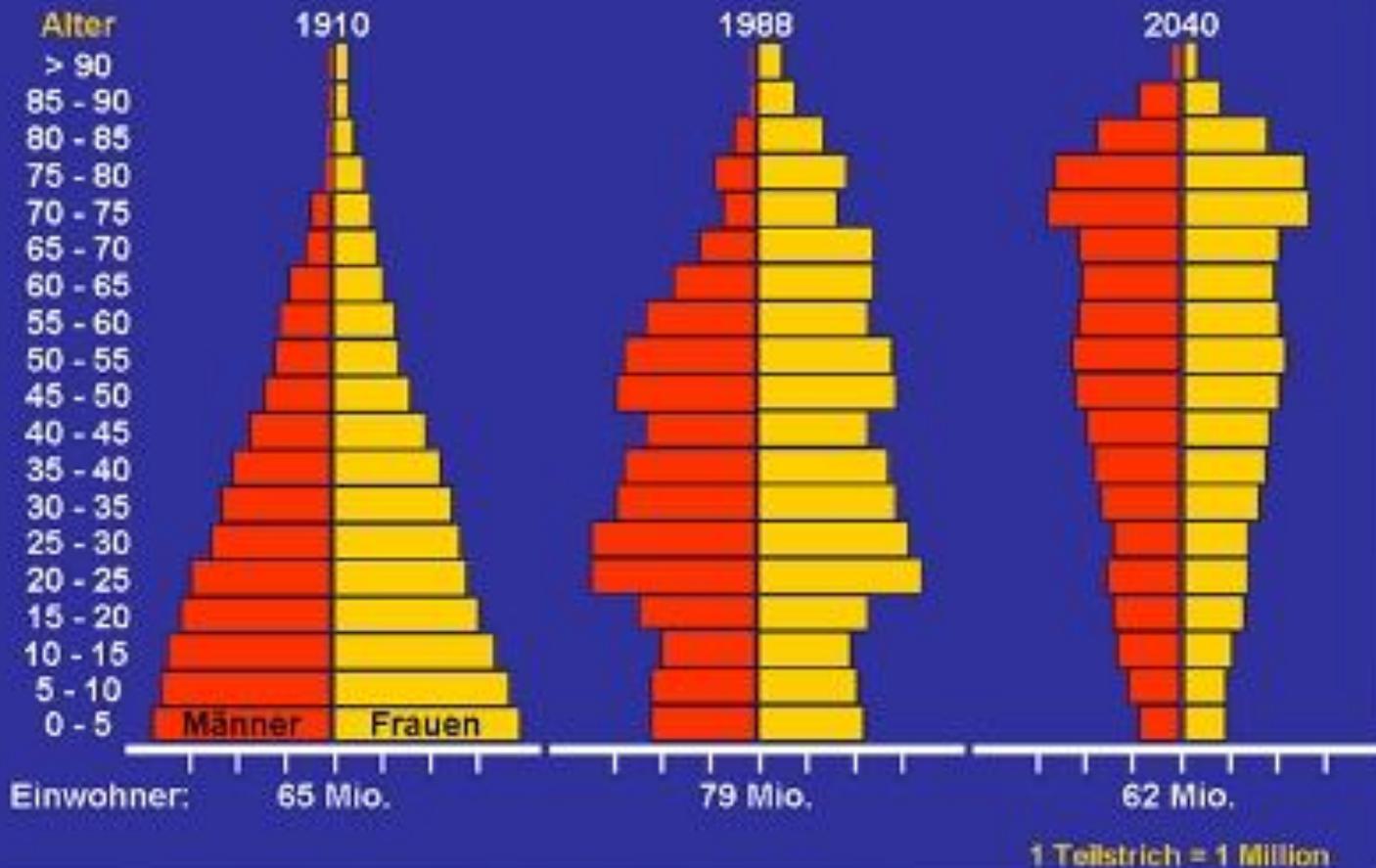


- Prävalenz in der Gesamtbevölkerung ca. 1%
- Verdoppelung der Prävalenz mit jeder Dekade ab ca. 50. Lebensjahr
- Mittleres Alter ca. 75 Jahre
- Patienten ≥ 65 Jahre ca. 84%
≥ 80 Jahre ca. 32%
- Altersadjustierte Prävalenz: Männer > Frauen

1 Wolf PA et al., Stroke 1991;22:983-8
 2 Lake RR et al., Aust N Z J Med 1989;19:321-6
 3 Philips SJ et al., Mayo Clin Proc. 1990;65:344-59
 4 Furberg CD et al., Am J Cardiol 1994;74:238-41
 5 Feinberg WM et al., Arch Intern Med 1995;155:469-73
 6 Go AS et al., JAMA 2001;285:2370-5

Age pyramid in Germany

Alterspyramide Deutschland



Career in EP

- **The AF ablation miracle**

Health Insurance in Germany

Treatment availability

- | | |
|---|-------------------------------------|
| No restrictions | <input checked="" type="checkbox"/> |
| No restrictions, but the indications have to follow the ESC guidelines | <input type="checkbox"/> |
| No restrictions, but the indications have to follow the National guidelines | <input type="checkbox"/> |
| Restricted to certain number of treatments/budget | <input type="checkbox"/> |
| Not funded | <input type="checkbox"/> |

Health Insurance in Germany

Training centres availability

Pacemaker	1,048
ICD implantation	561
Electrophysiological studies and catheter ablation	300*
CRT implantation	371
Atrial fibrillation ablation	40*

* Approx.

Number of medical faculties	36
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Percentage of academic facilities among practicing EP and implant centres	20%*
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* Approx.

Health Insurance in Germany

10. Interventional electrophysiology

	2009	2010
Number of ablation centres	191	200*
Number of ablations performed	40.000*	42.000*
Number of ablations per centre	210*	210*
Number of AF ablations	11.000*	12.000*

* Approx.

Germany - 80.000.000 people

1% - 800.000 people with AF

12000 AF ablations – 1.5%

EP Career – today's opportunities

- **Big demand in EP positions**
- **Increasing number of hospitals and private institutes to start EP programs**
- **7 fully trained EP specialists left our department within the last 5 years to move to other places**

EP Career – today's challenges

- **Economical crisis increased pressure on health care budgets**
- **Hospital spending restrictions significantly increased**
- **No real career pathway exists in most countries**
- **Risk of lacking exit strategies - think of new innovations such as mitral clipping, LAA occluders, renal denervation etc**
- **EHRA and Industry training programs are essential to help EP in their career development**
- **EHRA is driving new routes with workshops and exams but is it enough?**
- **Some local societies are looking to create a more structured pathway such as UK and Spain, others are likely to follow**
- **Is this a national or European responsibility?**

HRS is offering career support through Web Based Sessions

Emerging Electrophysiologists : **My Story**

The Society's "My Story" sessions feature distinguished clinicians in the EP field sharing personal strategies for success with those wishing to gain an advantage in today's dynamic and complex health care environment. Viewers are given an opportunity to expand upon personal knowledge and skills by exploring the business of medicine through the eyes of seasoned peers to ensure future success.



Heart Rhythm Society™

Restoring the Rhythm of Life

HRS: My Story covers important career coaching

Process of Choosing

- One of the toughest decisions EP fellows face is choosing whether they want to begin their careers as academic or private practice physicians. Listen as Frank Cuoco, MD highlights key factors to consider when determining what setting is right for you and shares his experience as both an academic and private practice electrophysiologist within the first five years of his career. [Learn more »](#)
- As a follow-up to his presentation, Dr. Cuoco discusses the process of self analysis and the vital role it plays in determining one's career path as an electrophysiologist. [Watch interview now »](#)

HRS: My Story covers important career coaching

The First Interview

- The first job interview is critically different from that of the interviews EP fellows go through for medical school, residency and even their fellowship. Listen as Hemal M. Nayak, MD explains his experience and offers valuable tips and information he learned in preparation for the interview process. [Watch interview now »](#)
- The interview process is a time where an individual can determine whether an institution is a good fit for them. Find out how the process has changed within the past 5 years and some key points individuals should remember before beginning their interviews. [Learn more »](#)

Dedicated Mentor Program for Young EPs

When grey hair matters

- Mentors will guide the mentees on the journey to achieving their career goals
- Mentoring can support young cardiologist in their choice to practice cardiac electrophysiology as their specialty
- A mentoring culture will facilitate innovative thinking and education
- Mentoring will help the fellow EP to navigate through the personal and professional life balance
- It is a reciprocal and a collaborative learning relationship
- Networking is a major requirement to make it to the top positions – mentors have a better chance to build it up

Woman in EP

- Although women account for more than 50% of graduates from medical schools in the US, only 14% of cardiology fellows are women. The figures are similar in the UK, where females make up 60% of medical-school applicants but only 17% of cardiology trainees, and just over 7% of consultants are women. Other countries report the same problem, although there are a few where women cardiologists are in the majority.

Woman in EP

- In 2011, the Heart Rhythm Society published regarding the percentage of male vs. female physicians in the United States within the EP and cardiology communities*:
- Male: 88.7%
- Female: 7.3%
- No Answer: 4.0%

HRS offered many career sessions for female EPS at HRS 2011

- Planning a Successful Career in Electrophysiology: Options and Planning Ahead
- Building Your Career: The Importance of Networking, Mentorship, and Work-Life Balance
- Trends among the Gender Divide: What Women in EP Should Know

Supportive woman's leadership programs in USA and Asia Pacific

US

- Heart Rhythm Society – Women's Leadership Initiative
- American College of Cardiology - Women in Cardiology
- American Heart Association – WIC Mentoring Award

Europe

- European Society of Cardiology – no specific women's program identified
- European Heart Rhythm Association – no specific women's program identified

Asia Pacific

- Asian Pacific Society of Cardiology - Women in Cardiology Council

Reserach confirms identified issues for women in EP

- Perceived Discrimination based on gender/family responsibility
- Inability to take time off/interrupt training
- Lack of Child Care Options
- Managing child care, family time and responsibilities might represent a challenge
- Fear of Radiation
- Academic Medicine \$ vs Private Practice \$
- For academic careers, promotion time table
- Perceived prejudices against women in leadership roles
- Different choices for careers may arise for women that are different than for men
- Women may be overlooked for positions of responsibility

Women in EP/Science

- **2012 HRS/EHRA/ECAS Expert Consensus Statement on Catheter and Surgical Ablation of Atrial Fibrillation: Recommendations for Patient Selection, Procedural Techniques, Patient Management and Follow-up, Definitions, Endpoints, and Research Trial Design**
- Hugh Calkins, MD, FHRS; Karl Heinz Kuck, MD, FESC; Riccardo Cappato, MD, FESC; Josep Brugada, MD, FESC; A. John Camm, MD; Shih-Ann Chen, MD, FHRS; Harry J.G. Crijns, MD, FESC; Ralph J. Damiano, Jr., MD; D. Wyn Davies, MD, FHRS; John DiMarco, MD, PhD, FACC, FHRS; James Edgerton, MD; Kenneth Ellenbogen, MD, FHRS; Michael Ezekowitz, MD; David E. Haines, MD, FHRS; Michel Haissaguerre, MD; Yoshito Iesaka, MD; Warren Jackman, MD, FHRS; Jose Jalife, MD, FHRS; Pierre Jais, MD; Jonathan Kalman, MD; David Keane, MD; Young-Hoon Kim, MD; Paulus Kirchhof, MD; George Klein, MD; Hans Kottkamp, MD;; Koichiro Kumagai, MD; Bruce D. Lindsay, MD FHRS; Moussa Mansour, MD; Francis E. Marchlinski, MD; Patrick M. McCarthy, MD; J. Lluís Mont, MD, FESC; Fred Morady, MD; Koonlawee Nademanee, MD; Andrea Natale, MD, FHRS; Stanley Nattel, MD; Douglas L. Packer, MD, FHRS; Carlo Pappone, MD, PhD; Eric Prystowsky, MD, FHRS; Antonio Raviele, MD, FESC; Vivek Reddy, MD; Jeremy N. Ruskin, MD; Richard J. Shemin, MD; Hsuan-Ming Tsao, MD; David Wilber, MD.

EP in top/leading positions in Germany

- **36 university hospitals**
- **3 independent EP departments with an EP as head of the department (Hamburg/Leipzig/Bad Krozingen)**
- **1 cardiology department with an EP as head of the department (Mannheim)**

Career in EP

Conclusions

- Need for EP's in Europe will further increase and is steadily increasing – the AF ablation miracle
- Economic crisis may affect this growth negatively
- Women are underrepresented in cardiology and EP
- Top positions for EP's are historically difficult to achieve in Germany