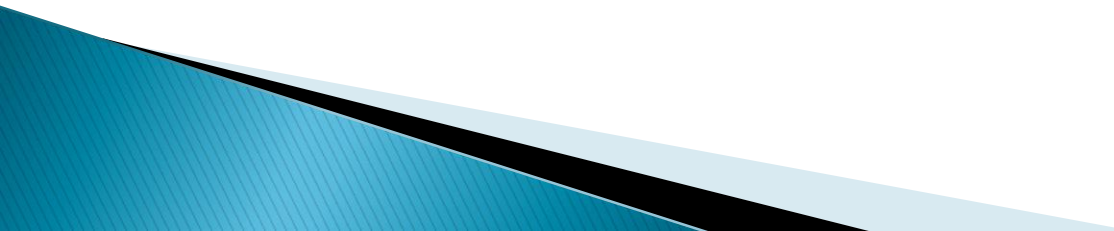
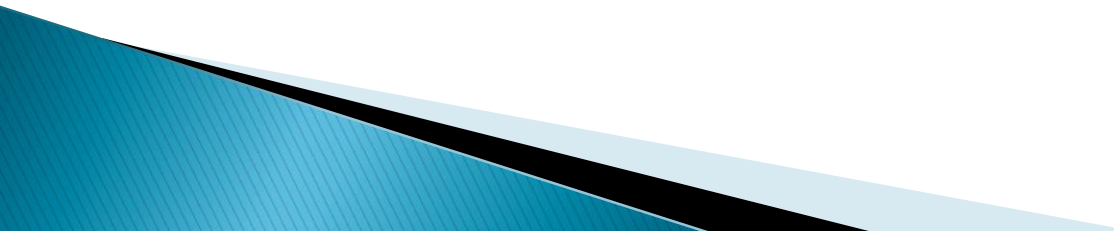


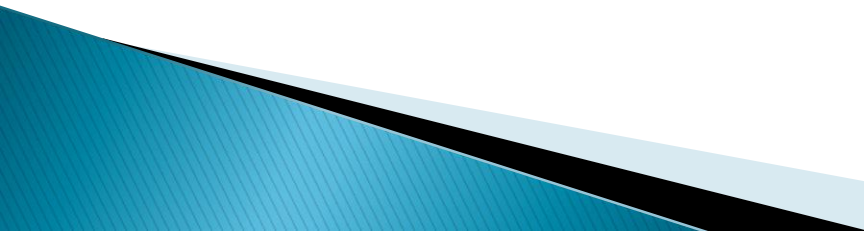
# Knowledge is Power!

- ▶ In order help you make the best decisions about AF ablation, we want you to be knowledgeable about your AF and our ablation outcomes
  - ▶ The following presentation provides information to help you with your decisions
  - ▶ All of the ablation outcomes shown are those of the physicians of Silicon Valley Cardiology
  - ▶ We want you to know both our good results and our complications
  - ▶ If you have an ablation with us you will become “a patient for life” as we will remain in contact with you over time to be certain your AF is cured.
- 

# Knowledge is Power!

- ▶ If you are contemplating an AF ablation, it is important that you obtain the types of data we provide in these slides from anyone who may be doing your procedure
  - ▶ It is important that physicians provide you with their personal outcomes and not just quote numbers they read in the medical literature
  - ▶ You are entitled to know each center's total experience, complication rates and both short-term and long-term outcomes
  - ▶ While ablation can eliminate AF in most patients, there are patients where it does not, and we want our patients to have realistic expectations of AF ablation
- 

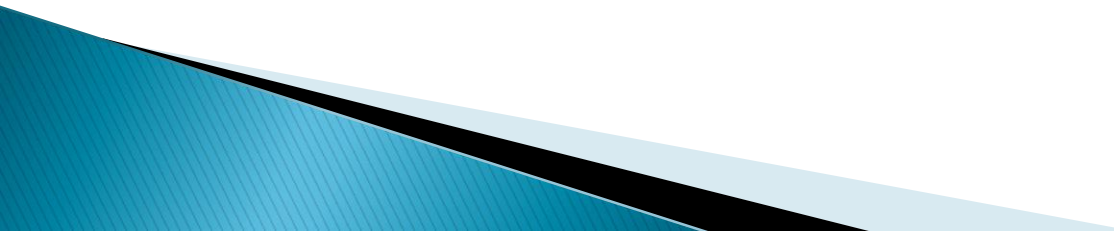
# Who should have an AF ablation?

- ▶ The primary benefit of AF ablation is to eliminate the symptoms of AF and improve your quality of life
  - ▶ These symptoms can include palpitations, inability to exercise maximally, shortness of breath, dizziness, lack of stamina, fatigue, anxiety or side effects from medicines taken control of AF
  - ▶ Generally, completely asymptomatic patients are not candidates for AF ablation, however there may be some exceptions such as
    - Younger patients to avoid a lifetime of drugs
    - Patients with poor heart pumping due to AF
    - Patients who might need a pacemaker to take drugs for AF
- 

# When should I consider an ablation for *my* atrial fibrillation?

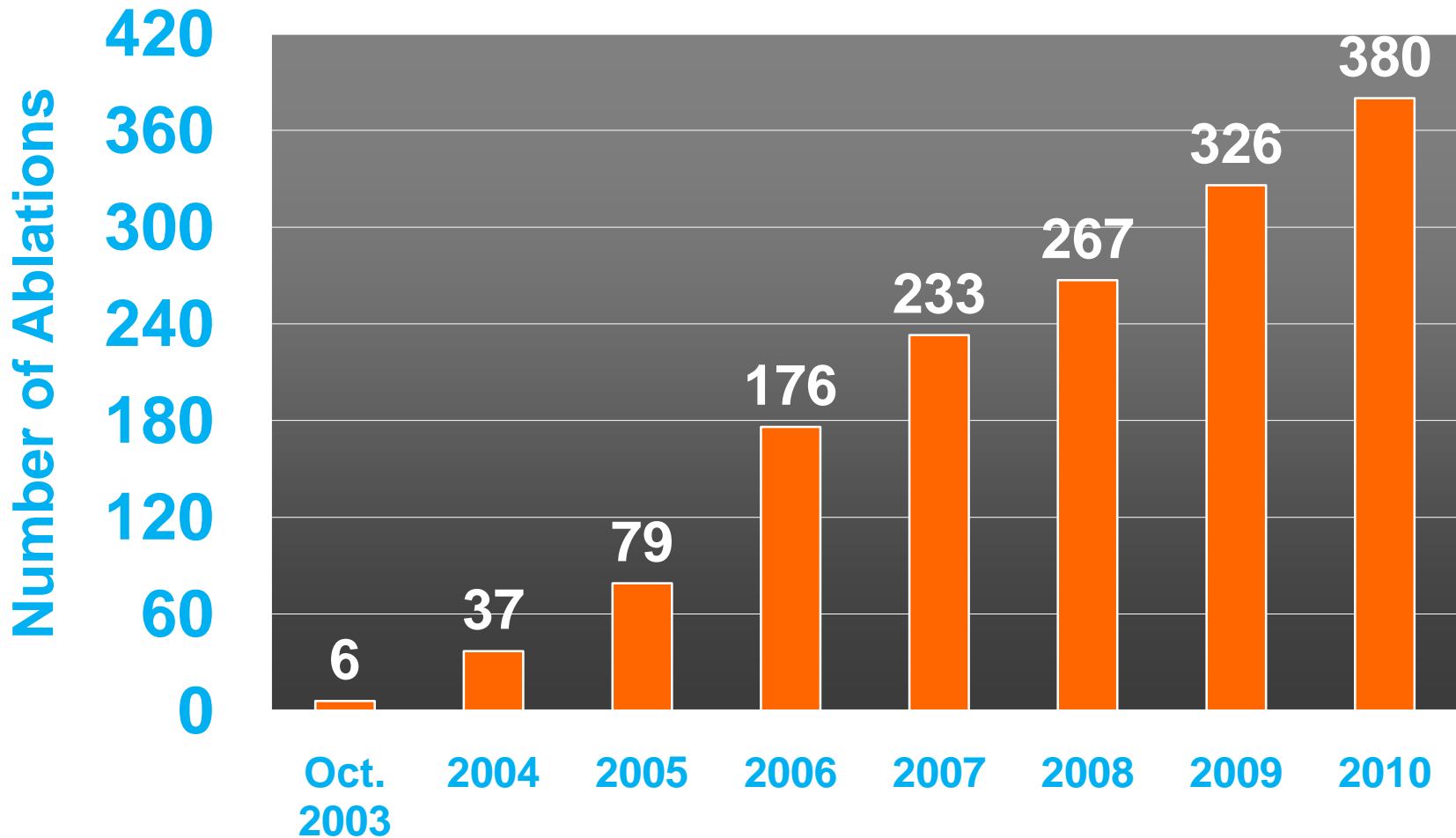
- ▶ There is no one answer that applies to everyone
- ▶ Patients usually choose to have an ablation when
  - their symptoms are not controlled by drugs
  - they prefer to avoid lifelong drug therapy
- ▶ Patients should keep in mind that the sooner they elect to have an ablation, the better the chance of having a successful ablation
- ▶ The best ablation outcomes are in patients who are younger, have smaller left atria, have been in AF for shorter periods of time and have not failed drug therapy.
- ▶ *Waiting only makes all of these things get worse!*

# How many AF ablations have been performed by the physicians of Silicon Valley Cardiology?

- ▶ We have currently done more than 1800 AF ablations
  - ▶ We perform our ablations at Sequoia Hospital in Redwood City, CA, where we have two dedicated ablation suites
  - ▶ The next slide shows the year by year number of ablations done by the physicians of Silicon Valley Cardiology
- 

# Sequoia Hospital Afib Ablations

(Total = 1504 in 1125 patients thru Dec 31, 2010)



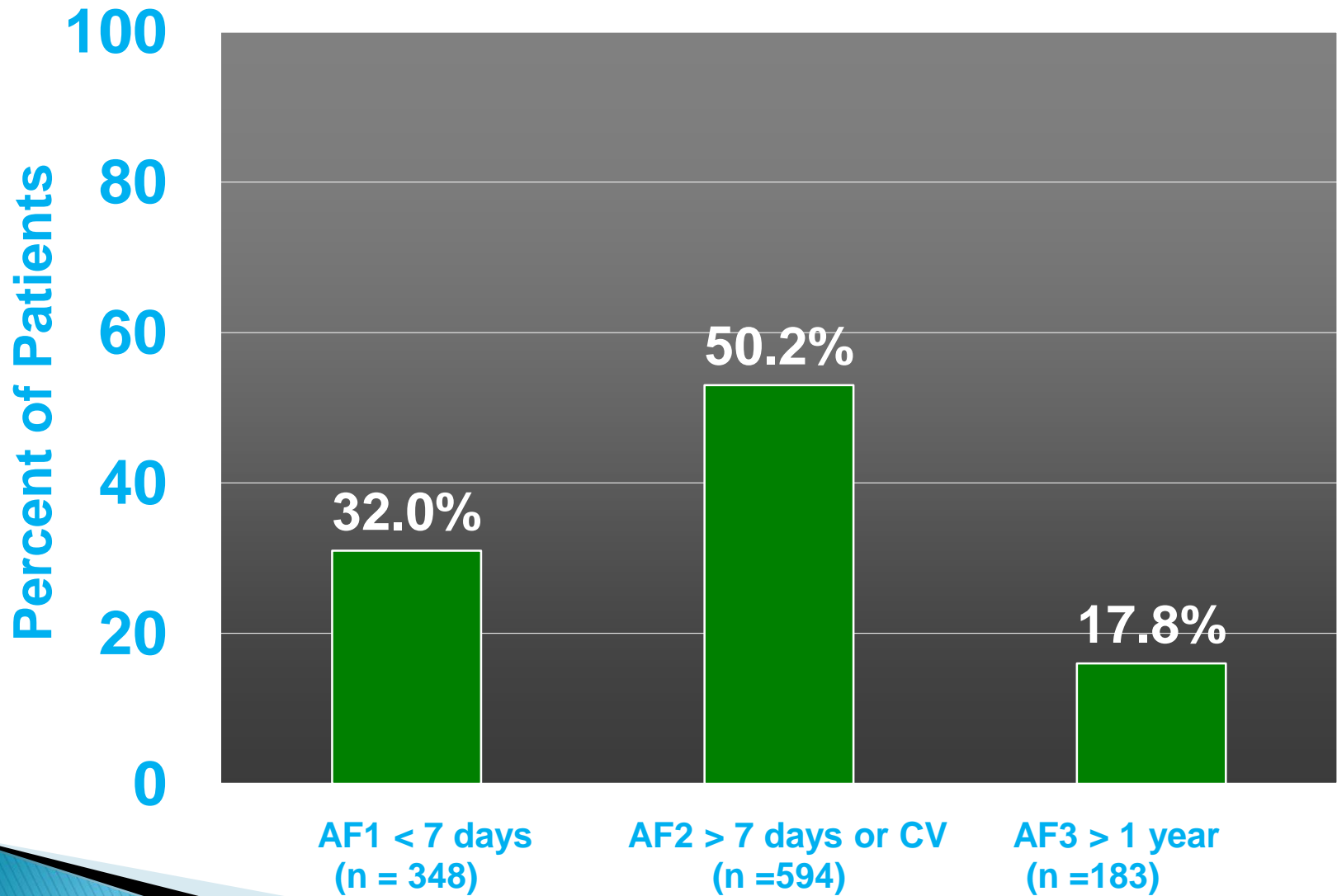
Number of Ablations by Year

# Not all AF patients are the same and they cannot expect the same outcome from ablation

- ▶ It is important for you to know your AF type
- ▶ AF type does not relate to how long you have had AF, but reflects how long your episodes of AF last
  - *AF1 = Paroxysmal AF* (AF always terminates in less than 1 week)
  - *AF2 = Persistent AF* (AF episodes lasting 1 week to 1 year)
  - *AF3 = Long-Standing AF* (in continuous AF for more than 1 year)
- ▶ In the subsequent slides you should pay most attention to outcomes with *your AF type*

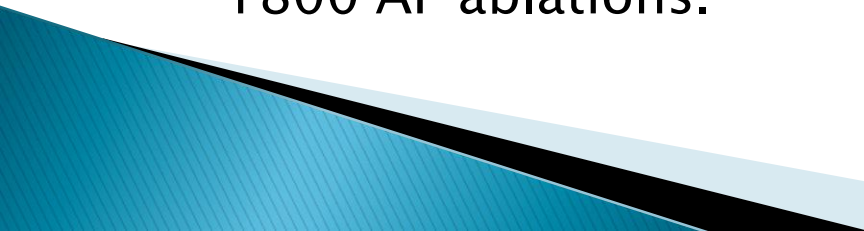
# Sequoia Hospital Afib Ablation

## Percent of Patients with each AF type (N = 1125)





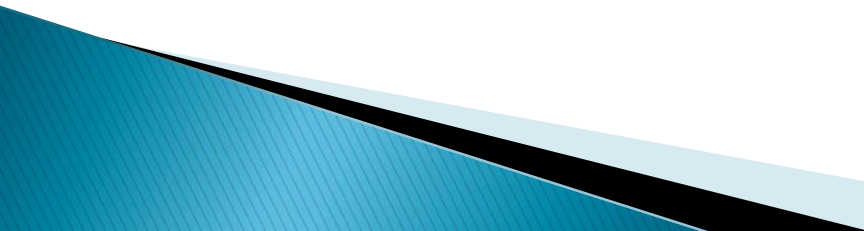
# Factors that affect AF ablation outcomes

- ▶ Your type of AF is one of the most important determinants of ablation outcome
  - ▶ The best results occur in patients with paroxysmal AF
  - ▶ Other factors predicting a better outcome are smaller left atrial size, younger age, fewer antiarrhythmic drugs failed and absence of coronary disease
  - ▶ Even if you have factors that do not predict the absolute best ablation outcome, your success rate may still be quite acceptable
  - ▶ When patients come for a consultation, we discuss their particular case and are able to give a reasonable estimate of their AF cure rate based on our experience with over 1800 AF ablations.
- 

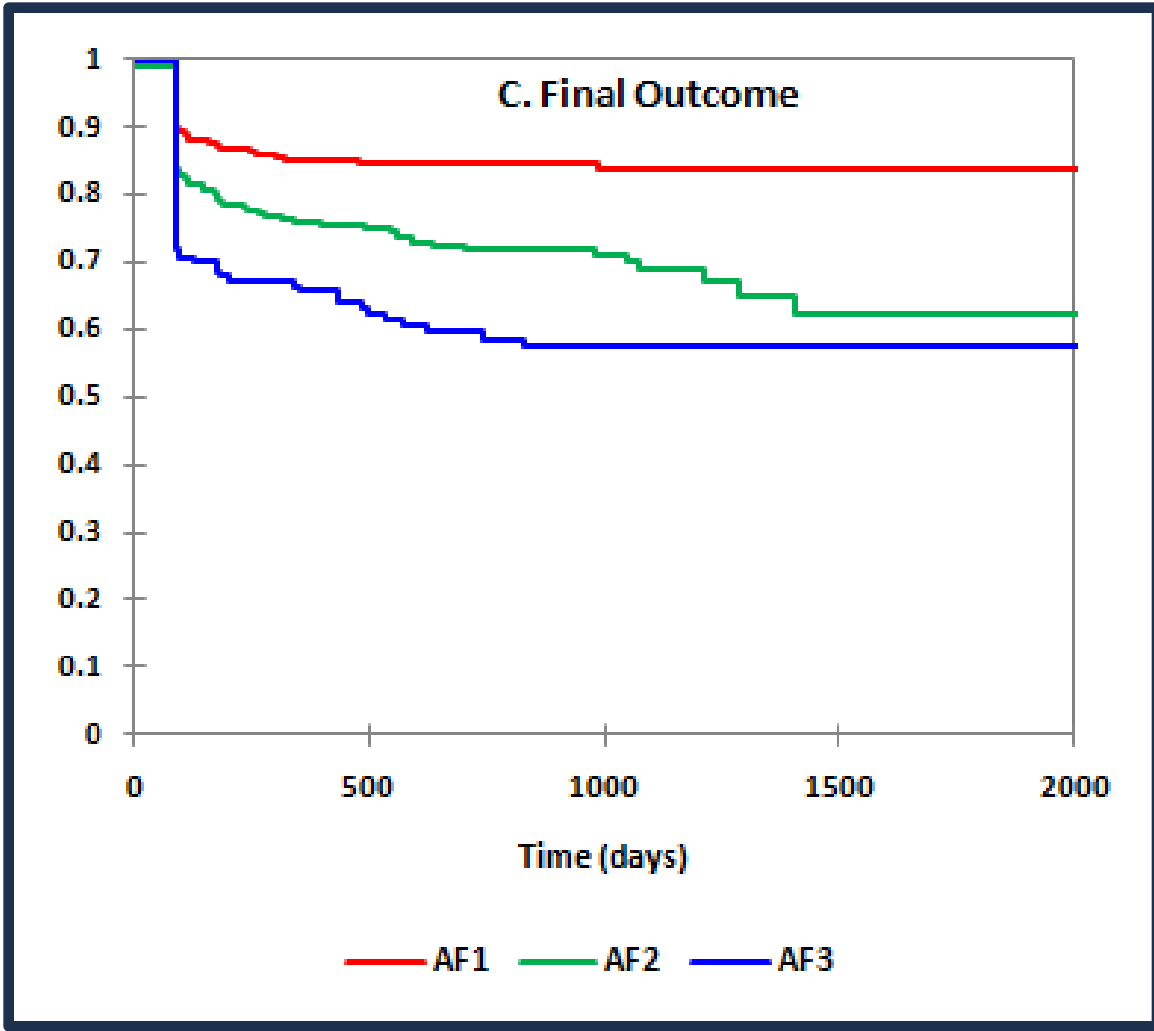
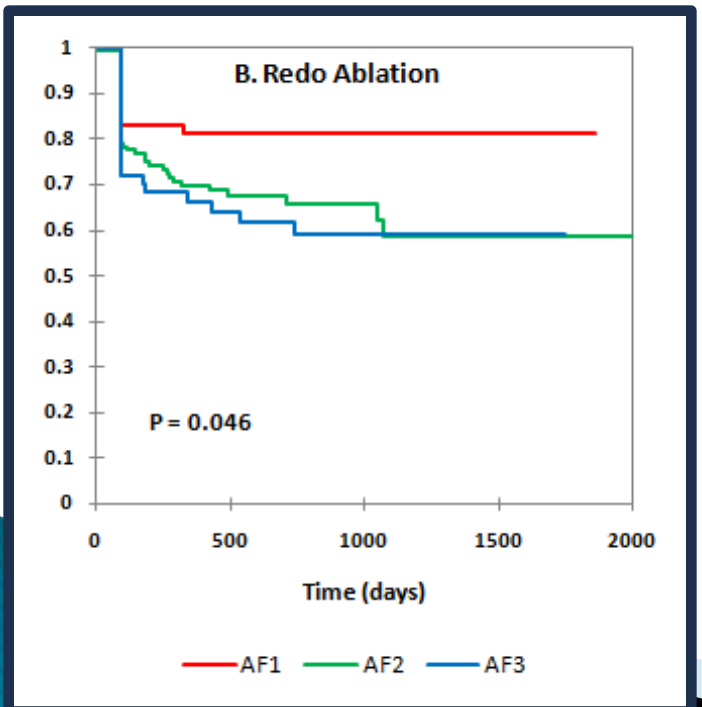
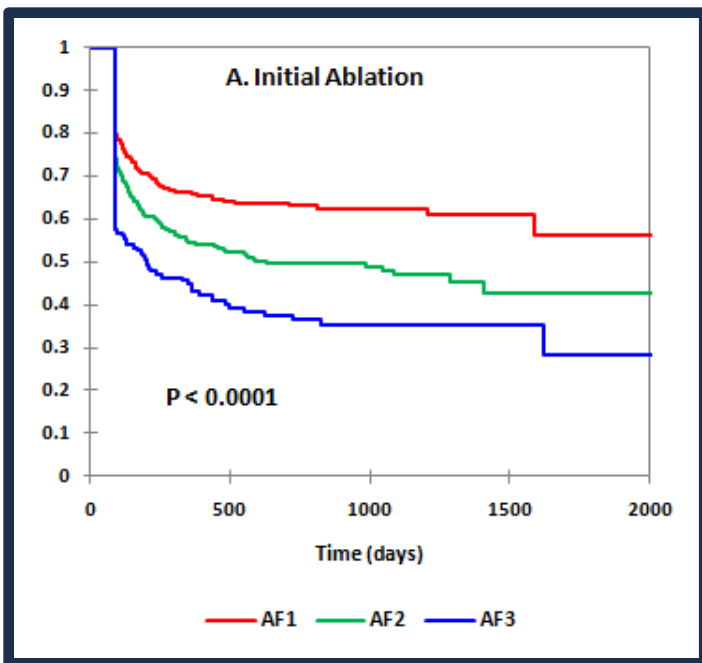
# Have a Repeat Ablation if the First One Does Not Work!

- ▶ Although we would like to cure all patients with a single ablation, that is not always possible
- ▶ The chance of needing a second ablation varies with the type of AF. For AF1 it is 26%, for AF2 it is 31% and for AF3 it is 38%. We rarely do a third ablation (about 6% of patients – usually only when the first two “almost worked”)
- ▶ Repeat ablations are more successful than first ablations (because much of the work was already done at the first ablation) and are just as safe as the initial ablation

# Outcomes of the Initial and Repeat Ablations by AF Type

- ▶ On the next slide the graphs on the left show our results for the initial and repeat ablations by AF type
  - ▶ Although many patients are cured by the initial ablation, the repeat ablations have an even higher success rate because much of the work was done at the first ablation and only “touch-up” is needed at the repeat
  - ▶ On the next slide the graph on the right shows our final results for all patients *whether or not they came back for a repeat ablation*. This includes the 20% who failed initial ablation and did not come back for a repeat (often in the early years before we realized the importance of a repeat ablation). If these 20% came back for a repeat, most of them would be free of AF and the success rates would be even higher
  - ▶ This will be illustrated in the “going all the way” outcomes in subsequent slides
- 

5 year outcomes after initial and repeat ablations (left graphs) and final outcome of all patients whether or not they had a redo ablation (right graph)



# “Going all the Way”

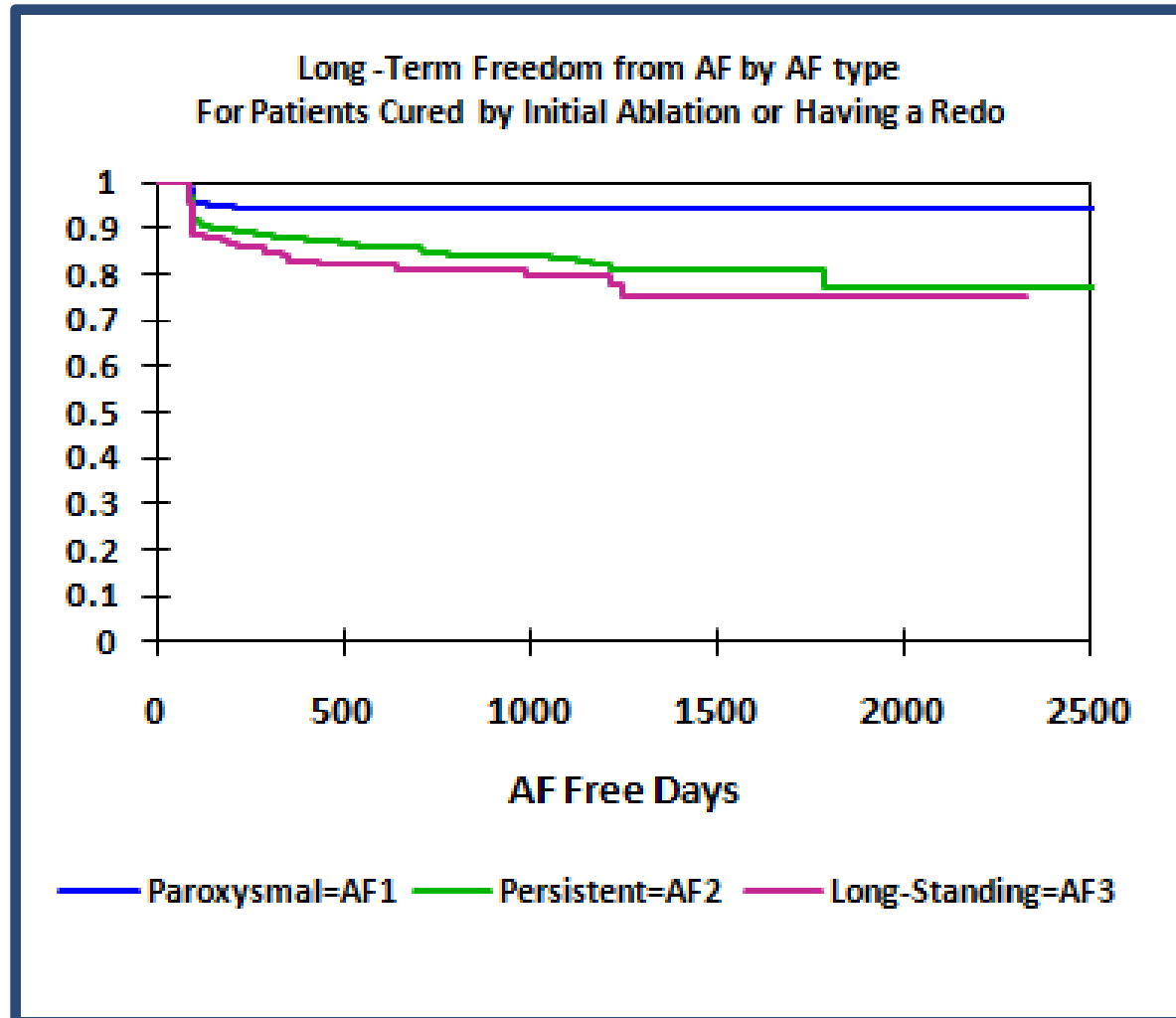
- ▶ >80% of our patients who are not cured by the first ablation do come back for a repeat ablation
- ▶ We call the patients who are either cured by the first ablation or who actually do come back for a repeat ablation as patients who “go all the way”
- ▶ The next two slides show our long term outcome in patients who “go all the way”. The first slide shows our outcomes in a table format and the next slide shows the same outcomes in a graph

*These are the outcomes a patient can expect if they “go all the way” and come back for a repeat ablation if the first does not work.*

# Freedom from AF at 1,3 and 5 years for those patients “Going all the Way”

	1 year AF free rate	3 year AF free rate	5 year AF free rate
Paroxysmal AF1	94.5%	94.5%	94.5%
Persistent AF2	87.9%	82.9%	77.3%
Long-standing AF3	83%	79.4%	74.4%

Long term outcome to almost 7 years for patients cured by the first ablation or who come back for a redo if the first ablation fails



## Complications: *We consider your safety as important or even more important than curing your AF*

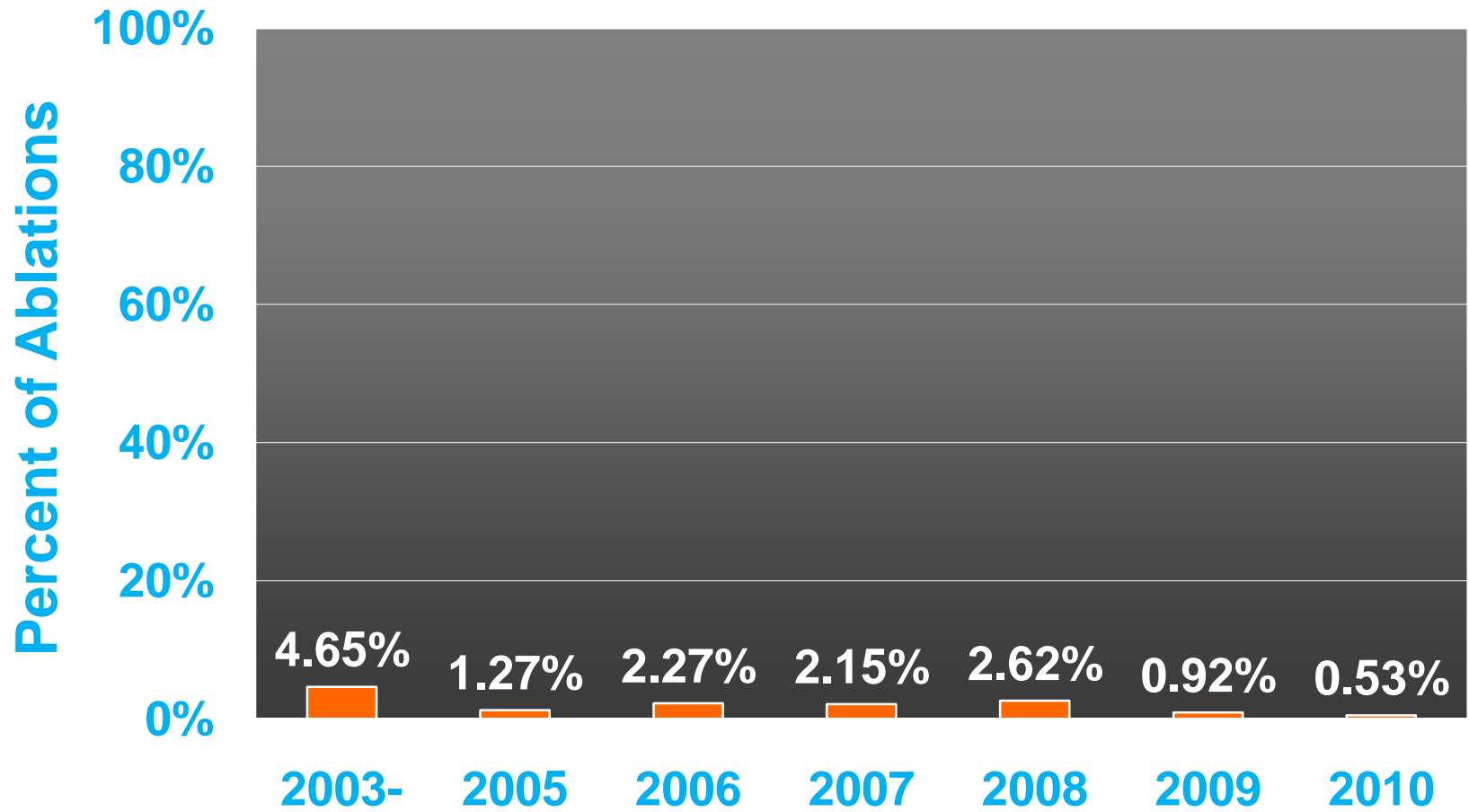
- ▶ AF ablation has some inherent risks
- ▶ Most major complications do not result in permanent disability, and resolve completely in a short time
- ▶ We have constantly refined our techniques to minimize complications
- ▶ There is a long learning curve to minimize complications and it is important to have your AF ablation at a high volume center with a long experience with AF ablation
- ▶ Over the last 2 years our rate of major complications has been <1% (0.92% in 2009 and 0.53% in 2010)
- ▶ The next slide shows our total major complications over 8 years and the following slide shows our year by year rates



# Sequoia Hospital AF Ablation: All Major Complications from 2003–2010 in 1504 Ablations

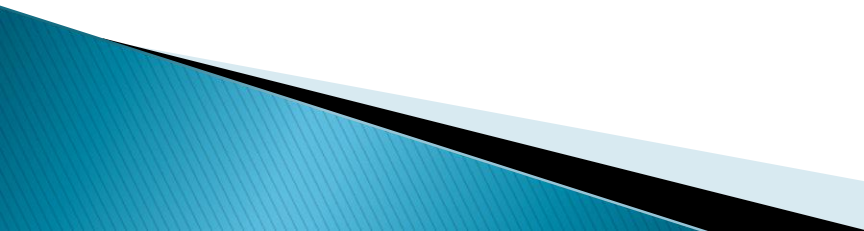
Major Complication	Total Number	% of Ablations (N = 1504)
Death	0	0%
PV Stenosis requiring Rx	0	0%
Atrial-Esophageal fistula	0	0%
Pericardial tamponade	9 7 OK after tap 2 Surgical drainage	0.60%
Stroke	4 2/4 with minor residual	0.27%
Groin complications requiring surgery	7	0.46%
Pacer for AV block	1	0.07%
Severe protamine reaction or tongue injury	2	0.14%
<b>Total Major Complications</b>	<b>23</b>	<b>1.53%</b>

# Sequoia Hospital AF Ablation Complications by Year (1504 ablations in 1125 patients thru Dec 31, 2010)



Major AF Ablation Complications by Year

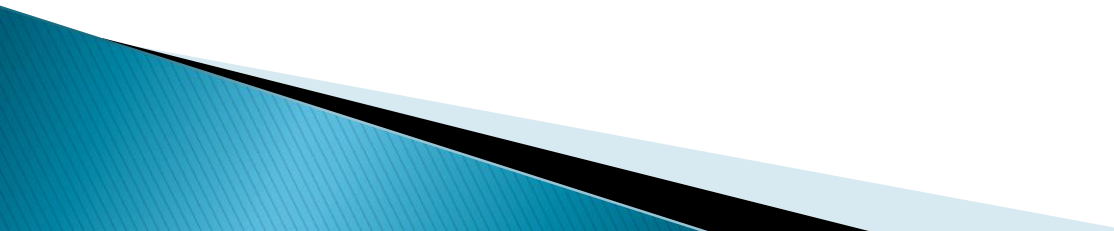
# How do our complication rates compare to other US centers?

- ▶ The next slide shows the number of complications per 1000 ablations for all Medicare patients undergoing AF ablation in the US and compares it to our complication rates
  - ▶ The rate of complications at other centers is 4.6 times greater than ours and more than 10 times greater than our 2009 and 2010 rates
- 

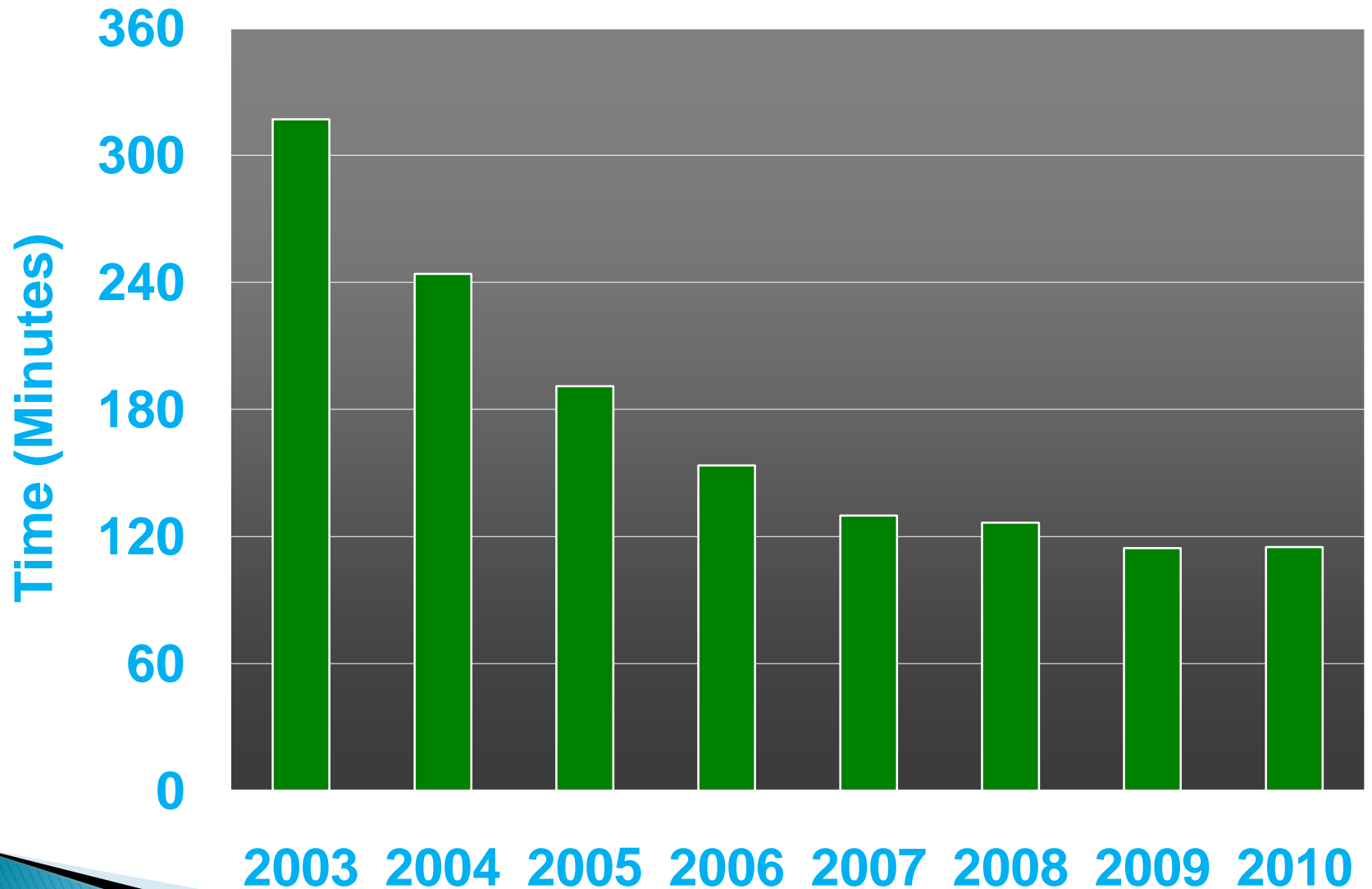
# Sequoia Hospital AF Ablation Complications Compared to Medicare Database (# per 1000 ablations)

Complication	Top 25% of Medicare Centers	Bottom 50% of Medicare Centers	All Medicare Centers	<i>Sequoia Hospital</i>
Death	1	6.5	4	0
Strokes	3	4	4	2.7
TIA	1	3	2	0.7
Pericardial tamponade	28	31.5	31	7.5
Pneumothorax	1	5.5	4	0
Any vascular	60	57	57	8.6
Hemorrhage/ hematoma	51	45.5	48	1.3
Surgical repair	3	4	4	7.3
Accidental puncture	9	11.5	9	0
<b>Total Complications</b>	<b>87</b>	<b>91.5</b>	<b>91</b>	<b>19.5</b>

# How long is the ablation procedure?

- ▶ Patients often hear horror stories about 4 to 7 hour AF ablations, often done without much anesthesia
  - ▶ We use general anesthesia for all AF ablations so you have no discomfort while we fix your AF
  - ▶ Our average ablation time is about 2 hours (see the next slide to show how we have shortened the procedure as we have become more experienced)
  - ▶ We believe that the shorter the ablation time the lower the risk of complications
- 

# Sequoia Hospital Afib Ablation Procedure Times by Year



# Silicon Valley Cardiology

- ▶ We hope this presentation has been useful for you to understand if an ablation of your AF by the physicians of Silicon Valley Cardiology is your best option
  - ▶ We also hope you have a good idea of Silicon Valley Cardiology's AF ablation experience and our outcomes compared to other hospitals
  - ▶ We encourage you to read our thoughts about cryoablation and robotic technology for AF ablation elsewhere on this site
  - ▶ Our goal will always be the safest and most effective treatment of your arrhythmia
- 