


Heart Failure


Using ACEIs and ARBs
Review: **SCIP**
Perioperative Use of Beta-Blockers


Great 8 QIOs Webex
February 9, 2010

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We don't provide healthcare...we make it better.


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Outline


- + Background
- + Case history
- + Heart Failure Treatment Rationale
- + Contraindications
- + Where are we now?
- + Documentation
- + Review of Card 2: perioperative beta-blocker
 - + Guidelines
 - + Hints for adherence


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CMS 9th Statement of Work

- + Four Themes
- + Beneficiary Protection
- + Disparities in Diabetes Care
- + Patient Safety
- + Core Prevention

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CMS 9th Statement of Work

- + Patient Safety
- + Reduce avoidable pressure ulcers
- + Reduce use of physical restraints
- + Continue surgical care improvement project (SCIP)
- + Reduce incidence of MRSA
- + Improve drug safety
- + Improve Nursing Homes in Need




Surgical Care Improvement Project (SCIP)


- ✦ All Quality Improvement Organizations (QIOs) participate in implementation by providing education, technical support, data analysis, best practices
- ✦ SCIP is a national quality partnership focused on improving surgical care by significantly reducing surgical complications
- ✦ Two cardiac measures:
 - ✦ One was pertinent to surgery: Card 2
 - ✦ One was unrelated to surgery: ACEI/ARB



Heart Failure Using ACEIs and ARBs



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Heart Failure

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Case History

In 1985, NF was a 73 year old retired engineer with AF, DM, S/P large anterolateral MI in 1978 with EF < 20% and chronic CHF NYHA Class IV

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Br Heart J. 1984 November :

- ✦ **Captopril in heart failure. A double blind controlled trial.**
- ✦ J G Cleland, et al



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Results:

“Captopril reduced plasma concentrations of angiotensin II and noradrenalin, with a converse increase in active renin concentration. Effective renal plasma flow increased and renal vascular resistance fell; glomerular filtration rate did not change.”



Heart Failure Using ACEIs and ARBs

Results:

“Exercise tolerance was appreciably improved, and dyspnoea and fatigue lessened. Left ventricular end systolic and end diastolic dimensions were reduced. There was an appreciable reduction in complex ventricular ectopic rhythms.”



Heart Failure

Using ACEIs and ARBs


NF was started on Captopril 12.5 mg TID


Within 2 months, his exercise tolerance improved ,
he was able to take short walks without dyspnea

Within 4 months he was able to walk his daughter
down the aisle and dance at her wedding



Kristin Greenlee
PHOTOGRAPHY


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Using ACEIs and ARBs

Heart failure is the most common hospital admission diagnosis in patients age 65 or older, accounting for more than 700,000 hospitalizations among Medicare beneficiaries every year. It is associated with severe functional impairments and high rates of mortality and morbidity.

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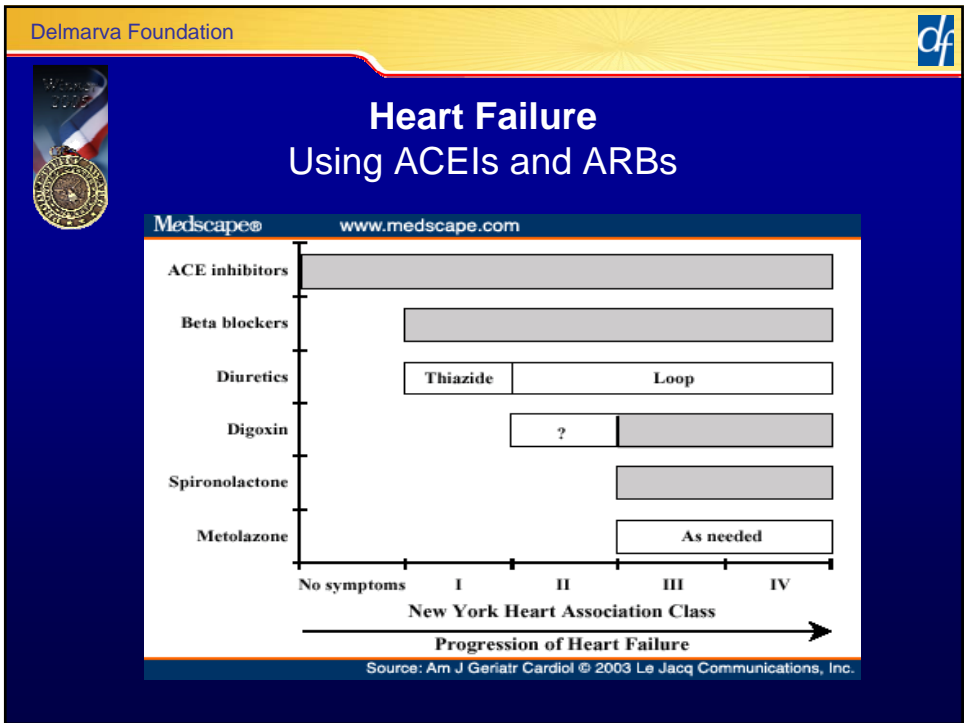
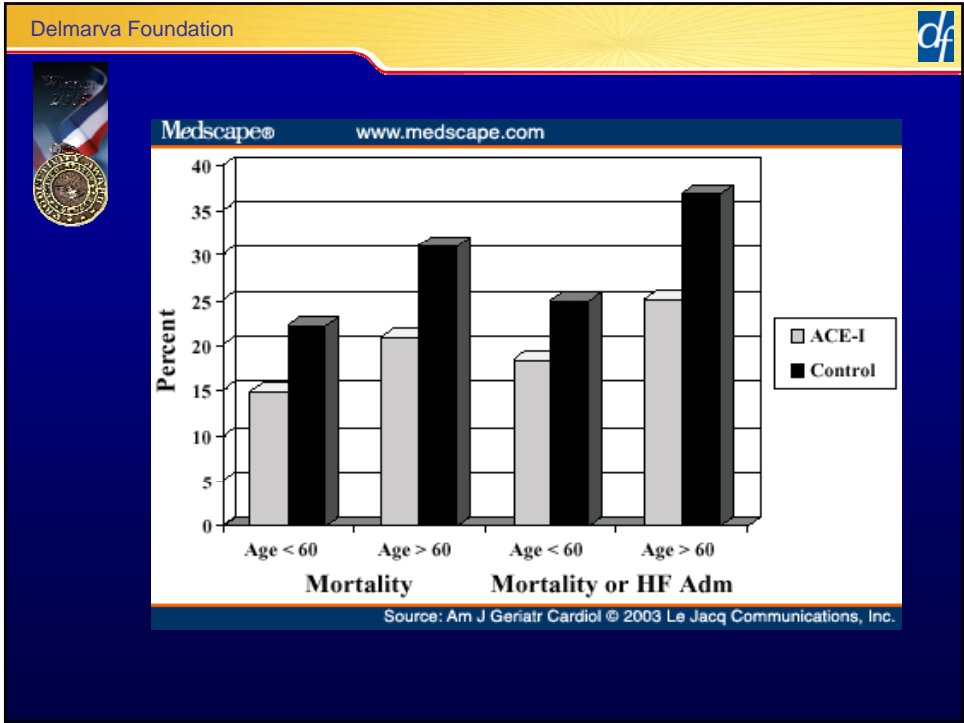


Heart Failure

Using ACEIs and ARBs

Angiotensin Converting Enzyme Inhibitors:

- ✦ Decrease mortality
- ✦ Decrease hospitalizations
- ✦ Decrease physical limitations





Heart Failure Using ACEIs and ARBs

ARBs are an acceptable alternative for patients who are ACEI intolerant:

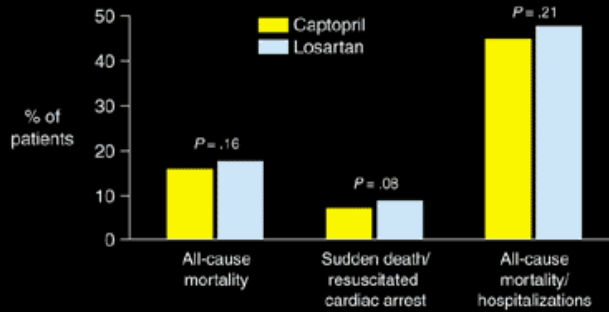
- ✦ Granger 2003
- ✦ Pfeffer, 2003




Medscape® www.medscape.com


VBWG

ACE inhibition vs ARBs in heart failure: Comparable outcomes in ELITE II



Poole-Wilson PA, Pitt B. Presented at 72nd Scientific Sessions of American Heart Association; November 10, 1999; Atlanta, Ga.

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Heart Failure


Using ACEIs and ARBs

Of 54,453 patients hospitalized for heart failure between 1995 and 2004, 26,166 (48%) filled prescriptions for ACEI/ARBs

The percentage *did not increase* over the decade of observation.

*Brigham and Women's
IJC, 2008*

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Heart Failure

Using ACEIs and ARBs

Patient Safety Initiative:
Heart Failure Process Measure

HF-3: Appropriate use of ACE/ARB for LVSD in patients with heart failure.

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Heart Failure Using ACEIs and ARBs


Definition of Heart Failure for this Measure:

- + LV systolic dysfunction
 - + LVEF < 40%

OR

- + Narrative description of moderately or severely depressed LV systolic function

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Heart Failure Using ACEIs and ARBs

“Success for this measure will be seen when all heart failure patients with LV systolic dysfunction and without both ACEI and ARB contraindications are prescribed either an ACEI or ARB at hospital discharge.”



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Contraindications





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Contraindications/Intolerances ACEIs

- + Cough
- + Angioedema
- + Hypotension
- + Hyperkalemia
- + Worsening Renal Function





Heart Failure

Using ACEIs and ARBs

Contraindications/Intolerances ARBs

- + Symptomatic hypotension
- + Hyperkalemia
- + Worsening Renal Function

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Heart Failure Using ACEIs and ARBs

Contraindications to Both ACEI and ARB

- + Severe aortic stenosis
- + Bilateral renal artery stenosis

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United States Department of
Health & Human Services
Leading America to Better Health, Safety and Well-Being

Hospital Compare - *A quality tool for adults, including people with Medicare*

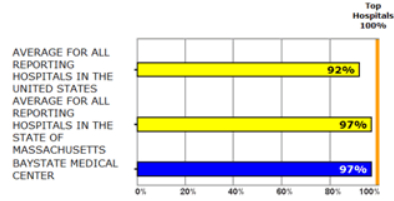
[Search](#) [About](#) [Data Details](#) [Resources](#)



Graph 1 of 1

Percent of Heart Attack Patients Given Aspirin at Arrival

The rates displayed in this graph are from data reported for discharges January 2005 through December 2005.



Why is this Important?

The heart is a muscle that gets oxygen through blood vessels. Sometimes blood clots can block these blood vessels, and the heart can't get enough oxygen. This can cause a heart attack. Chewing an aspirin as soon as symptoms of a heart attack begin may help reduce the severity of the attack. This chart shows the percent of heart attack patients who were given (or took) aspirin within 24 hours of arrival at the hospital.

Higher percentages are better.

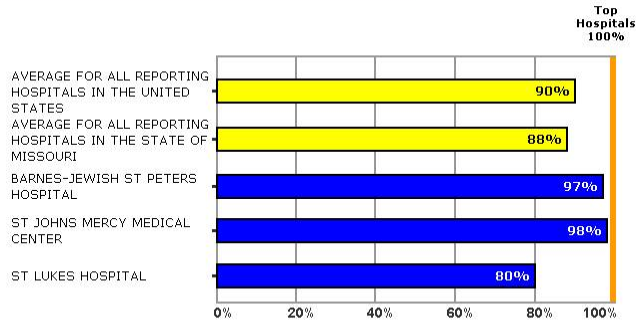
For more information about Heart Attack Care, [click here](#).

Note: Use the information in Hospital Compare with the other information you gather about hospitals as you decide where to get hospital services. You may want to contact your health care provider, your State Survey Agency or your state Quality Improvement Organization (QIO) for more information. If you have a complaint about the quality of the medical care you or a loved one received at a hospital, first contact the hospital's patient advocate. Or, contact your state QIO. If you have other complaints about a health care facility, contact your State Survey Agency. Their phone numbers can be found at medicare.gov/HelpfulContacts. Additional information about hospitals may be found on the state websites.


[Quality Measure Tables](#) Click here to see quality information in a table. This may be easier to use to compare hospitals side-by-side.




Percent of Surgery Patients Who Received the Appropriate Preventative Antibiotic(s) for Their Surgery
The rates displayed in this graph are from data reported for discharges July 2006 through March 2007.




Top Hospitals represents the top 10% of hospitals nationwide. Top hospitals achieved a 100% rate or better.


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Where Are We?



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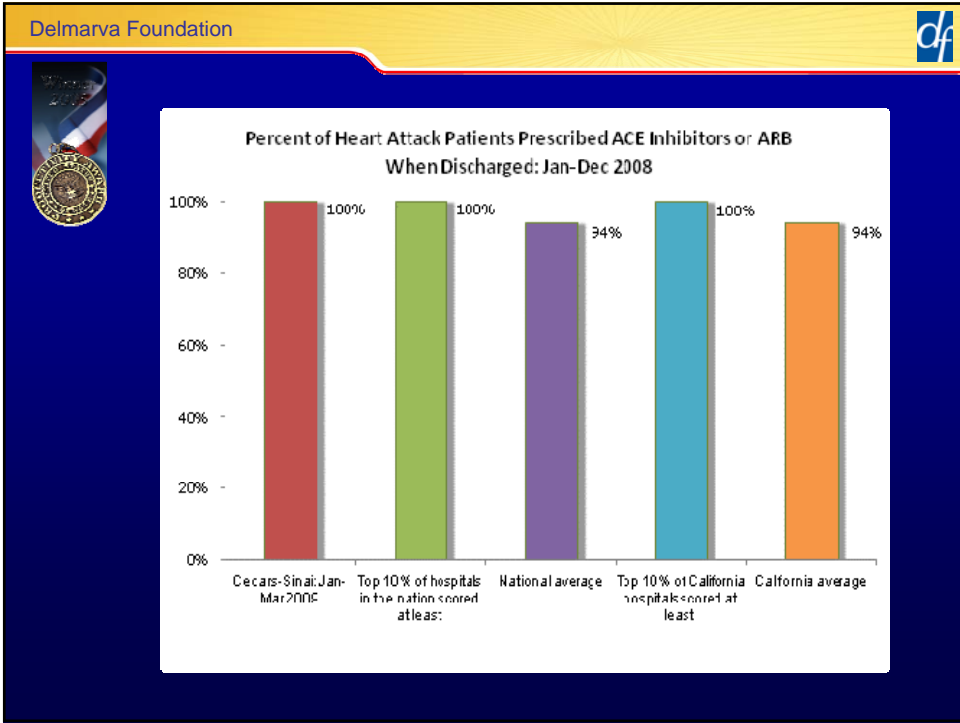
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Hospital Compare

Average for All Reporting Hospitals in USA:
89%

Average for Top 10% of Hospitals in USA:
100%



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Heart Failure

Using ACEIs and ARBs

Change Strategies

- ✦ HF order sets
- ✦ Standardized orders for ACE/ARB including check off boxes for contraindications and stickers for progress notes
- ✦ Staff education
- ✦ Identify barriers
 - ✦ How to use ACE/ARB in renal insufficiency

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Change Strategies

- ✦ Physician champion
- ✦ Feedback to physicians that is
 - ✦ Timely
 - ✦ Easy to understand
 - ✦ Recurrent
- ✦ Reminders
- ✦ Engage pharmacy, nursing, etc.


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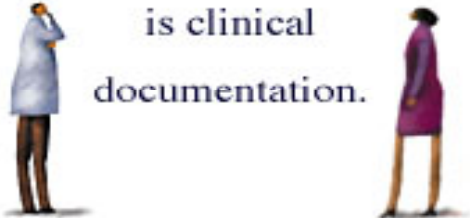
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DOCUMENTATION

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A huge headache
and drag
on our system
is clinical
documentation.





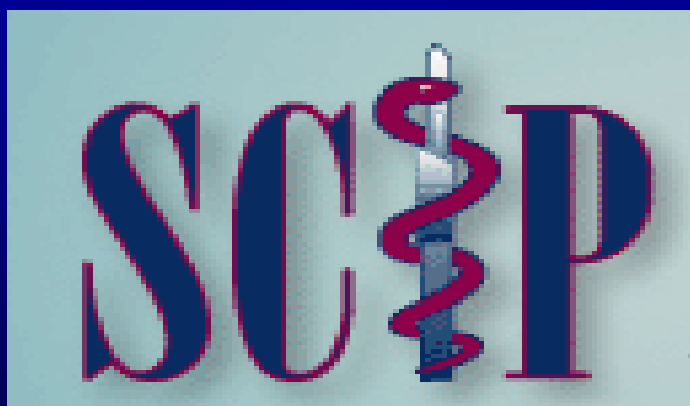
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Examples:

- + ACEI/ARB allergy
- + Chronic renal failure- no ACEI/ARBs
- + Patient refusing all medications


Your abstractors can look for documentation in multiple places and can be of great help.




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knowledge review


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The Surgical Care Improvement Project—Part 2 of a 3-Part Series

Preventing Adverse Cardiac Events in Surgery

Adverse cardiac events in major surgeries continue to plague hospitals, but efforts are being made to develop evidence-based tools that help prevent these complications.


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SCIP

Perioperative beta blockers

- + Lee A. Fleisher, MD, FACC, FAHA, Chair, 2007 Writing Committee Member
- + J Am Coll Cardiol, 2009; 54:13-118, doi:10.1016/j.jacc.2009.07.010 (Published online 2 November 2009).
[© 2009 by the American College of Cardiology Foundation](#)
- + **2009 ACCF/AHA Focused Update on Perioperative Beta Blockade Incorporated Into the ACC/AHA 2007 Guidelines on Perioperative Cardiovascular Evaluation and Care for Noncardiac Surgery**

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Perioperative beta blockers

“In this update, a Class I indication for perioperative beta-blocker use exists for continuation of a beta-blocker in patients already taking the drug,” the authors wrote.

ACC/AHA updated guidelines 11/2009



SCIP

Perioperative beta blockers

“Although the data are limited, perioperative beta-blocker withdrawal should be avoided unless necessary,” they wrote. “As noted in the recommendations, continuation of beta-blocker therapy in the perioperative period is a Class I indication, and accumulating evidence suggests that titration to maintain effective heart rate control while avoiding frank hypertension and bradycardia should be the goal.”

Fleisher L. *J Am Coll Cardiol.*
[2009;doi:10.1016/j.jacc.2009.07.010.](https://doi.org/10.1016/j.jacc.2009.07.010)



SCIP

Perioperative beta blockers


- ✦ Applies to patients who are already taking beta-blockers prior to admission/surgery
- ✦ Patients from whom beta-blockers are WITHDRAWN perioperatively are at greater risk for cardiovascular complications
- ✦ Beta-blocker withdrawal was associated with an increased risk of 1-year mortality compared to non-users (HR=2.7; 95% CI=1.2-5.9).


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Take Ownership


Ensure your hospital achieves 100% compliance with beta blockers in the perioperative period


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Take Ownership


- ✦ As a final “fail safe” check, consider adding “time of last beta-blocker dose” to your anesthesia check list for surgeries. If the dose is not charted by the time of surgery, the anesthesia personnel can determine the need and deliver the beta blocker prior to induction.
- ✦ Find a “champion” in the anesthesia department who will embrace the issue of preoperative beta blockers. This could be you or another anesthesiologist that is passionate about high-quality, reliable care.


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Take Ownership

- ✦ Encourage your champion to set up a multi-disciplinary team to examine the processes presently in place and determine why certain patients do not receive beta-blockers. This team should include, at a minimum, representation from CRNAs, pharmacy, peri-operative nursing, and medical-surgical nursing.

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Take Ownership

- ✦ Consider “hard-wired” processes for documenting and delivering beta blockers in elective, scheduled surgery patients. For example, if a patient is NPO, be certain your policies allow an exception for morning of surgery medications with a sip of water. If you require an anesthesia professional to see pre-op patients individually, use a pre-printed order sheet so that medications that need to be taken pre-op are not forgotten with the NPO order.



Take Ownership

- ✦ If a patient must be strictly NPO pre-op, consider whether your hospital policies will allow an IV beta-blocker to be given on the medical-surgical floor or if the patient will need to be transferred to a special monitored bed. Once a team of anesthesia, nursing, pharmacy and cardiology have agreed upon a solution, establish a written protocol to apply for mandatory NPO patients.



Take Ownership

- ✦ Determine how the time of the oral dose given on the day of surgery is documented and develop a protocol that standardizes how this documentation is performed. (Note: if the patient took their beta blocker **ON THE DAY OF SURGERY**, no documentation of time is needed because it will have been within 24 hours of surgery. However, if the documentation is only “took last beta blocker dose yesterday” then more than 24 hours may have elapsed before surgery and another peri-operative dose may be needed.)



Summary

- ✦ Heart failure is the most common diagnosis in hospitalized Medicare patients
- ✦ Medicare patients benefit from ACEI/ARB
- ✦ Make it as easy as possible for physicians to use these drugs or explain why not
- ✦ Have the facts about perioperative withdrawal of beta-blockers
- ✦ Use whatever works to engage physicians



MCHUMOR by T. McCracken



"Off hand, I'd say you're suffering from an arrow through your head, but just to play it safe, I'm ordering a bunch of tests."



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Questions?

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