VOLUME 2, ISSUE 1

JANUARY 2012

Health & Fitness

Upcoming Events within the county

- Healthy Living Expo
  January 28th, 2012
  Oroville Municipal Auditorium
  10 am - 12 pm
- Annual Crab Feed
  January 28, 2012
  Silver Dollar Fairgrounds
  6 pm—9 pm, Dancing—11 pm

Mid career and the Myth of the Aging Metabolism

By Michael Krueger

One word comes to mind whenever I think about people in the middle years of their careers and that word is complacent. In most professions, complacency simply gets you "down sized"; in firefighting it gets you dead.

The Trouble with Age

You've worked your tail off for quite a few years, you've paid your dues and now you are a veteran. You feel that you've earned some respect and some perks as well. Longevity means something so long as you accomplished something during those years, simply getting by and putting in your time isn't supposed to be what it is all about. You are here to grow, learn, mentor and thrive not just make it through to retirement. Too often the "old timers" forget that fires don't care how long you've been a firefighter. Heart attacks and injuries don't take into consideration that you only have 4 or 5 years to retirement. It's too easy to "remember when" and forget to "remember how".

Fire Service Veterans

I'm of a different mindset than many in the mainstream when it comes to fitness and age. So often you will see books and articles about fitness after 40 or 50 or whatever age group they want to market to, implying that an older body is fundamentally different. Truth is if you have been eating well and regularly exercising then age doesn't matter all that much. On the other hand, if you haven't been exercising at all and eating trash for years, age does make a difference. Perhaps more precisely, the many years of poor nutrition, lack of exercise and a sedentary life style, makes a difference.

The only real difference between a 21-year-old firefighter and a 41-year-old firefighter is 20 years of experience. As far as strength and conditioning there should be no difference. There can't be because the job requires it to be that way.

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INSIDE THIS ISSUE:

The Ultimate EMT Guide to Vital Signs: Part 2—The BP

I love teaching each new EMT class cycle how to take a blood pressure. It's fairly simple and strait-forward, but there's also a real art to it. Folks who are good at it wield their blood pressure cuff like a teppanyaki chef wields his knife. You can tell they're good by watching the confidence in their movements, the order that they perform the steps, and the attention they give to the details.

There's a big difference between the guy who chops vegetables down at the local Denny's and the chef at the Benihana. Same tools, different level of skill. You see what I mean right? If your blood pressure skills are still somewhere in between the short order cook

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The EMT Spot
Medicine Moves Fast ... Keep Up

Cornmeal-Crusted Chicken Nuggets with Blackberry Mustard

Tossing chicken tenders with cornmeal gives these chicken nuggets great crunch without deep-frying. Blackberries (or raspberries, if you prefer) combined with whole-grain mustard make for a sweet-and-savory dipping sauce. Serve with: Steamed broccoli and carrots.

Ingredients

- 1 cup fresh blackberries or raspberries, finely chopped
- 1 1/2 tablespoons whole-grain mustard
- 2 teaspoons honey
- 1 pound chicken tenders, cut in half crosswise (see Tip)
- 1/2 teaspoon salt
- 1/4 teaspoon freshly ground pepper
- 3 tablespoons cornmeal
- 1 tablespoon extra-virgin olive oil

Preparation

- Mash blackberries (or raspberries), mustard and honey in a small bowl until it looks like a chunky sauce.
- Sprinkle chicken tenders with salt and pepper. Place cornmeal in a medium bowl, add the chicken and toss to coat (discard any leftover cornmeal).
- Heat oil in a large nonstick skillet over medium-high heat. Reduce heat to medium and cook the chicken, turning once or twice, until browned and just cooked through, 6 to 8 minutes total (thinner nuggets will cook faster than thicker ones). Serve the chicken nuggets with the berry mustard.

Tips & Notes

Chicken tenders are the lean strips of rib meat typically found attached to the underside of chicken breasts. They can also be purchased separately. Four 1-ounce tenders will yield a 3-ounce cooked portion. Tenders are perfect for quick stir-fries, chicken satay or kid-friendly breaded “chicken nuggets.”

Per serving: 184 calories; 5 g fat (1 g sat , 3 g mono); 67 mg cholesterol; 9 g carbohydrates; 3 g added sugars; 26 g protein; 2 g fiber; 452 mg sodium; 70 mg potassium.

**For an even healthier version, substitute the cornmeal with almond meal.*

Recipe courtesy of: EatingWell.com

Metabolism (cont. from Pg 1)

The victims of fires, floods, earthquakes, tornados and car crashes don’t care how old you are, they just need help. The question you need to ask yourself at this point in your career is; “Am I fit enough to put all of my experience to good use?”

Old Enough to Know Better

Are you as strong as you were in your youth? Is your endurance still where it needs to be? If they aren’t, don’t blame an aging metabolism; it isn’t at fault. For far too long we have believed that as we age our metabolism just naturally slows down and that there isn’t anything that can be done about it. Now we understand that that this just isn’t so. It’s nothing more than a convenient excuse used by those who are getting fat and lazy.

Metabolic slow down is a result of the loss of active muscle mass. The less muscle you have the fewer calories you need, but that doesn’t mean you’ve stopped consuming them. In the US, the average 35 year old man gains one pound of fat each year until he hits his 60’s and women gain fat at a slightly faster rate. That’s at least 25 pounds of metabolically inactive fat even though their body weight stays the same.

Many people watch their weight

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Metabolism (cont. from Pg 2)

by checking the scale. This can be deceiving since they may be losing muscle mass and gaining fat mass without realizing it. Soon their clothes don't fit like they used to. People used to believe that was caused by a natural "settling" with age and once again, there was nothing they could do about it. It turns out they were just maintaining their scale weight by replacing each pound of muscle that they had lost with a pound of fat. To make matters worse a lumpy pound of fat takes up more space than a smooth pound of muscle (the exact ratio is subject to much debate) which is why they look soft and squishy and their clothes don't fit like they did before.

This "stealth fat" weight gain is in addition to any additional "scale weight" fat gain which for the average American is about another pound per year. So by the time the average American hits retirement age they have added about 50 pounds of fat since their mid 30's, even though their scale weight has gone up "only" 25 pounds.

Gaining those 25 pounds of scale weight fat is no mystery; you get fat because you eat too much. To prevent that weight gain, get your diet under control. You lose those 25 pounds of muscle mass because you don't strength train in order to maintain them; this is a classic example of "use it or lose it". It is imperative to prevent that yearly loss of metabolically active muscle in order to avoid the stealth fat gain. In a best case scenario you will continue to add muscle mass as you age, bypassing the problem altogether.

Case Study

In the somewhat distant past, a 22-year-old male joined the United States Coast Guard; he weighed 165 pounds. Over the next 31 years his weight ballooned to 186 pounds. Despite this weight gain, he can still easily don his dress uniform and it fits great with two minor exceptions. The dress coat is a

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"If you only do what you know you can do,

You never do very much."

--Tom Krause

Pulse Check (cont. from Pg 1)

and the teppanyaki chef, here are some tips to getting better.

1) The blood pressure starts with a pulse, not a cuff

Most folks put the cuff on the patients arm without much thought to the location. Sure, you were taught how to place the cuff correctly back in school, but, hey, you've been doing this a long time so…

I disagree.

Cuff placement is important. Start with the brachial pulse. If you have trouble finding the brachial pulse, you can review the location here. The location of the brachial pulse can vary considerably from patient to patient. Don't assume you know where it is. Find it and place a finger on it while you grab your cuff with the opposite hand. while you're here, note if the pulse is strong or weak, regular or irregular, fast or slow.

Now place the cuff with the artery label directly above the brachial pulse with about an inch between the pulse point and the cuff. Oh, and this is a good time to make sure you have the correct size cuff. If you have trouble getting a good seal on the Velcro you may need to move up to the big boy cuff. To much overlap may mean you need the Lilliputian size.

2) The stethoscope comes next

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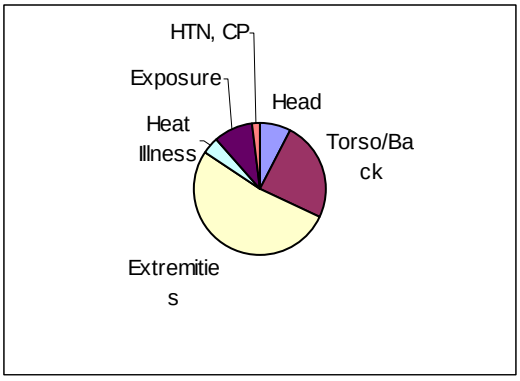
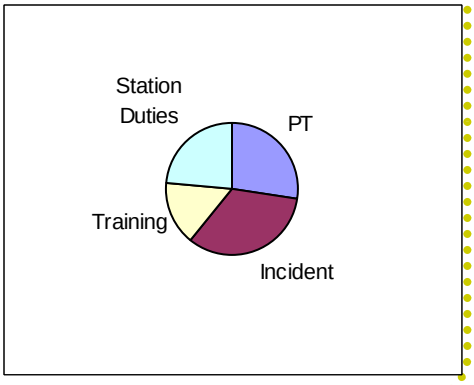
IAPS Data from December & 2011

"SAFETY CORNER"

	Dec	2011
Reportable Injuries:	0	65
Record Only Injuries:	1	37
Injury by Activity:		
PT	1	28
Incident:	0	34
Training:	0	16
Station Duties:	0	24
Injury by Body Part:		
Head:	0	8
Torso/Back:	0	25
Extremities:	1	53
Heat Illness:	0	4
Exposure:	0	10
HTN, Chest pain	0	2





Pulse Check (cont. from

Don't start inflating that cuff yet! Often, folks get the idea that the next move is to start pumping the cuff up to the 200 mmHg range. Hold off there camper.

Place your stethoscope on the patient's arm and place a bit of pressure on the bell. Now start inflating. Since you placed the cuff and the stethoscope first, now you can listen on the way up. Pay attention to when you start to hear those whooshing Korotkoff sounds. Are they regular or irregular? do they sound fast or slow? Are they loud or soft?

You're going to know when to stop inflating the cuff because you're going to hear when the sounds stop. Now you can tailor your cuff inflation to your patient. No more guess work.

3) Nice even drop

With practice, you'll figure out which needle drop rate is right for you. Too fast and your systolic reading may come out inaccurately low. Too slow and everyone on scene will start tapping their foot waiting for your results. Nice and even.

You're listening for the first clearly audible whoosh (Or thump…pick your poison.) and the last whoosh before silence. The first clear whoosh is your systolic pressure and the last one represents the diastolic pressure.

There's some debate over whether the true diastolic pressure is represented by the transition to the fourth Korotkoff sound (deep whoosh) or the fifth korotkoff sound (silence). Don't worry about it. The current common practice is to use the transition to silence as the true diastolic pressure.

If you want to get fancy you can also grab a quick six-second pulse by counting the korotkoff sounds. Freeze the needle in between the systolic and diastolic pressures, glance at your watch and count how many whoosh sounds you hear in six seconds. Multiply by ten and then continue dropping the needle. Now you've got a fairly accurate pulse and a blood pressure all in one.

4) Listen for a blood pressure; don't look for a blood pressure

The bumping of the needle often seen on the sphygmomanometer (the gauge) during the needle drop may or may not coincide with the audible blood pressure. You can't take an accurate blood pressure by simply watching the needle. Let me repeat that last line.

You can't take an accurate blood pressure by simply watching the needle.

It doesn't work. Believe me, if it was that simple, I'd tell you. The truth is, you may see needle jumps 20 mmHg above the audible systolic pressure or 20 mmHg below. There's just no reliable correlation. So don't get fooled.

5) No sound? What now?

OK, so you didn't hear anything. Don't panic. It happens to everyone. Start from your ears and work toward the patient.

- Are the ear pieces angled forward into your ear canals or backward against the side of your ear canals? Angle them forward.
- Are there any kinks in the stethoscope tubing?
- Is the bell on the stethoscope turned toward the correct side? Everyone gets fooled by this one occasionally. Tap the business side of the stethoscope and see if you hear clear crisp tapping.
- Feel for the brachial pulse again and place the stethoscope bell directly over it.
- Are you putting too much pressure on the bell of the stethoscope? Don't let the bell ride to far up under the BP cuff or you'll invert the bell when you inflate the cuff and muffle the sounds. You want gentle pressure on the bell.

Now inflate the cuff and try again. If you still can't find it consider trying the other arm or palpating the blood pressure. If the patient is unstable, consider that they may not have a viable pressure. Quit fiddling with the BP and treat for shock.

6) Palpation, how do you do that?

Palpation allows you to quickly get a rough estimate of the systolic pressure without the use of a stethoscope. When monitoring critical patients, when time is of the essence and trending vitals is a frequent task, palpating the pressure is a great tool.

Correctly apply the BP cuff and grab a radial pulse. Inflate the cuff until the radial pulse goes away and then slowly deflate the cuff. When the radial pulse returns, that's a fair estimation of the systolic pressure. it's worth noting that palpated pressures tend to be about 8-10 mmHg lower than the true systolic. when documenting palpated pressures note the systolic pressure as assessed and replace the diastolic pressure with the letter "P".

There you have it. The basic blood pressure technique is just like the basic vegetable chop. But there's a lot more skill to taking a solid accurate blood pressure than initially meets the eye. Just like there's a lot more to chopping vegetables than just the basic slice. Just ask any teppanyaki chef.

High Rise training at Gold Country Casino

Metabolism (cont. from Pg 3)

little snug under the arms and across the chest, and his pants are a little loose around the waist.

When he was 22 years old his body fat was about 15 percent. So, he carried about 24 pounds of fat and 141 pounds of lean mass. At 53 years of age, his body fat is about 13 percent, or still about 24 pounds of fat, but now he carries 162 pounds of lean mass. That's 21 additional pounds of metabolically active muscle.

What's the deal here? What happened to the aging metabolism effect?

It's no mystery really; it is the predictable result of regular strength training, aerobic conditioning and a sensible diet.

Granted, this is only anecdotal evidence that the aging metabolism is a myth, but from my personal experience I can say that diet and exercise will not only keep you from getting fat, but you may even improve over time.

Fitness Facts and Aging

There are a couple of considerations with regards to aging that I can't deny. One is that you will need more time to recover. That is easily taken care of; just make sure you get enough sleep. Secondly, make sure your diet is in order. Taking in less than optimal nutrition is no longer an option. That one is easily addressed as well; eat like a grown-up!

Lastly, don't let your attitude grow old. As a veteran you have learned things that the rookie has yet to find out. The vet knows everything that the kid knows, and a lot that he doesn't. Mentor the new recruits and give them the benefit of your experience and set a good example. Don't let them make the same mistakes that you did; let them make new ones instead.

Take care of yourself mind and body, share your knowledge and wisdom and you will have a wonderfully enjoyable and productive career; and a long happy retirement as well.

Michael Krueger is an NSCA-certified personal trainer. He got his start in fitness training while serving in the United States Coast Guard. He works with firefighters and others in and around Madison, Wisconsin. He is available to fire departments, civic organizations, and athletic teams for training, consulting, and speaking engagements. He has published numerous articles on fitness, health, and the mind-body connection and was a featured speaker at the IAFC's FRI 2009 Health Day in Dallas, Texas. E-mail him at MKPTLLC@gmail.com.

CE Answer Sheet: Blood Pressures

Complete this answer sheet from the previous CE article and forward it to the Training Office for grading and credit. (1 CE hour Credit for successful completion)

1. The brachial pulse is easily found in most peoples wrist area.
   - ☐ True
   - ☐ False

2. The size of the BP cuff wont change the reading you get.
   - ☐ True
   - ☐ False

3. The whooshing sounds of the heart are referred to as Korotkoff sounds.
   - ☐ True
   - ☐ False

4. It is easiest and most accurate to start off pumping the cuff up to around 200 mm/hg.
   - ☐ True
   - ☐ False

5. When you start hearing the heart sounds, as you are releasing pressure, it is the Systolic reading.
   - ☐ True
   - ☐ False

6. Watching the needle "bump" is reliable for obtaining a BP when it is noisy.
   - ☐ True
   - ☐ False

7. Which position of the earpiece is preferred, angled forward or angled backward?
   - ☐ Forward
   - ☐ Backward

8. Tapping on the bell of the stethoscope is a quick way to ensure that it is turned to the correct direction
   - ☐ True
   - ☐ False

9. Having the bell too far under the cuff can actually cause you not to hear a sound.
   - ☐ True
   - ☐ False

10. Palpated blood pressures are just as good as auscultated ones?
    - ☐ Yes
    - ☐ No

Name:

Station:

Comments: _____

_____

_____

_____

Battalions 5 & 6 at a Structure Fire on Milsap Bar Rd

For Suggestions or Comments:

CAL FIRE / Butte County FD

176 Nelson Ave

Phone: 530-966-8682

Fax: 530-879-3433

E-mail: Mike.Waters@Fire.Ca.Gov

"Let No Man's Ghost Say His Training Let Him Down!" -Unknown Author