

**“Plus ça change,
plus c'est
la même chose”**

*“The more things change,
the more they
remain the same.”*

Jean-Baptiste Alphonse Karr



Frenchman, Jean-Baptiste Alphonse Karr, wrote this in 1849, reflecting that turbulent changes do not affect reality on a deeper level other than to cement the status quo.

This idea is an hypothesis for exploration and discussion. It goes to the heart of Change Management – the theme of the ACRNA 2019 Conference.

What is change?

Could it be that it is the status quo – the constant that remains the same – that change is pervasive and everlasting?

ACRNA 2019 Conference Theme

The control room will always be subject to change:

- Technology challenges
- Integration of new and acquired assets
- Human factors

The CSC looked for a subject which captures a wide range of issues for control room design and operation, and for operator recruitment and training:

- Are stakeholders seeing effective change management?
- Are Users feeling engaged or fed solutions?
- Does management know, really, what effective change management is?
- What planning tools are used, and how well?
- How much collaboration takes place – internally and externally?

A quick look at some of our members is all that is needed to recognise the amount of change that control rooms go through.

Some examples are:

- New operating system.
- Evolution to integrated operations.
- New fitout, same building.
- New site, new control system, staged changeover over years of commissioning.
- Geographical relocation from small rural towns to capital city CBD office.
- Geographical relocation from a CBD office building at a transport hub to an unserved suburban site.
- Staged insitu refurbishment while in operational mode.
- Offshore to onshore operations.
- Migration to new CR, repurpose old CR as DRC/back-up CR.
- Amalgamation and integration of divergent operating groups.
- Migration in operational mode.

We come across strategies, policies and tactics for effective change management, and the conference is a starting point to experience some of those:

- The design of work systems is fundamental to designing change.
- Engagement, modelling, iteration.
- Stepping up to novel approaches and exploring other industries.
- Who would think that we have lessons to learn from e-Sports and the electronic gaming world?

The CSC has brainstormed these ideas, and now extends the challenge to the membership to think broadly and propose researchers, topics, speakers, site visits and experiences which will stimulate energetic discussion from the floor and ensure another successful conference in 2019.

“Some grumble that roses have thorns.

I am grateful that thorns have roses.”

Jean-Baptiste Alphonse Karr

ACRNA 2019 Conference 29th to 31st October Melbourne

The 2019 ACRNA Conference SubCommittee is inviting ideas, content and site visit hosts for the three day conference.

- The registrations will be open shortly:
- Individual: \$700.00 + GST for all three days. Includes conference dinner, guest speaker and 12 months membership subscription/renewal
 - Day rate \$250.00 + GST per day for Days 1, 2 or 3. Excludes membership
Day 1 includes Dinner & Guest Speaker
 - Evening Dinner & Guest Speaker only \$100.00 + GST
Excludes membership
 - AGM only FREE excludes breakfast, lunch & membership
 - Membership added to day rates \$100.00 + GST

The Individual tickets are transferable within a business or interest group.

AGL and Powerlink – Gold Corporate Members

ACRNA welcomes AGL and Powerlink as Gold Corporate Members.



Corporate Committee Members

ACRNA also welcomes Paul Lewis (Viva Energy), Stuart Cariss (AGL) and Steve Saunders (Powerlink) to the Management Committee.

ACRNA Financial Report

The ACRNA Management Committee, in its July meeting, with a quorum of seven, adopted the Financial Report for the year ended 30 June 2019.

This clears the way for the report to be presented to the membership at the AGM on 31 October 2019. Members may view the report via this link

<https://acna.org/about/#committee>

In summary, the ACRNA is financial thanks to the strong support of our corporate members.

The Administration & Finance SubCommittee will present an annual budget proposal to the Committee at the August meeting.

Members are encouraged to submit their ideas for programmes and resources which they would like to see incorporated in ACRNA-financed activities and services to the membership.

Sitting & Standing at Work

Perils of Sitting

Sitting for more than 1 hour has been shown to change the way we metabolize fat and glucose leading to depositing into fat tissue rather than burnt by muscle. There is also increased risk of heart disease. Regular exercise doesn't reduce this risk. People are now advocating standing to work because this will mean more muscle activity (about 20% more calories)

Sitting uses less energy than standing. It helps stabilize the body so we sit to do fine motor tasks like computer work, driving, and fine detailed work. Ergonomists recommend sitting be broken up by periodic standing & moving (1-2 minutes every 30 minutes).

Research shows that frequent micro-breaks improves comfort, work performance, and reduces musculoskeletal injuries.

Perils of Standing

Standing is more tiring. It requires approx. 20% more energy than sitting. Prolonged standing increases risks of varicose veins. It reduces our fine motor skills, so speed of keying and mouse movements reduce. It puts greater strain on the circulatory system and on the legs and feet. We provide ergonomic anti-fatigue mats for workers who stand all day and chairs to allow them to sit during breaks. So standing all day is unhealthy.

Sit-stand workstations

Prof Alan Hedge & his team at Cornell University have reviewed computer use when sitting and standing. They have found little evidence of any widespread benefits of sit-stand workstations and users only stand for very short periods (15mins or less total / day). Also use of sit-stand workstations rapidly declines so that after 1 month a majority of people are sitting all the time.

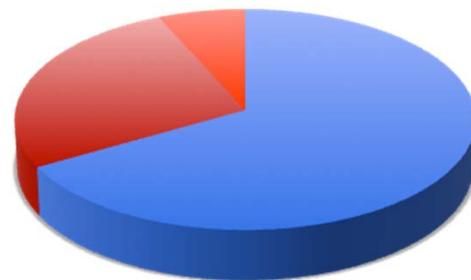
Dynamic workstations

Others have proposed treadmill or bicycle workstations. Both these have been tested and shown to decrease computer work performance (typing and mousing slows down and more mistakes are made) however calories burnt per day increases.

The bottom line

Sit to do computer work. About every 20-30 minutes **MOVE** for 2 minutes. Take a posture break. Standing is insufficient, movement is important to get blood moving through the muscles. Just walking around is sufficient. Create greater movement variety in the workplace. Walk to the printer, coffee machine and rubbish bin. Stand for a meeting. Take the stairs. Walk around the floor or outside.

Key: build frequent movement variety into the normal workday



- Sitting
- Standing
- Stretching

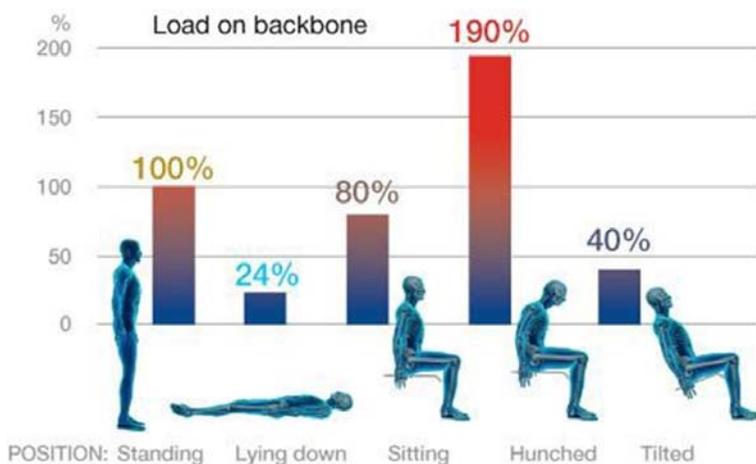
...So...

What is the correct way to sit?

It's estimated that about 50% of the industrialized world suffer back complaints and many of these relate to poor sitting posture and seat design. The best posture for sitting is one which imposes the least amount of postural stress. So what is this posture?

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Key: Make sure the angle between your trunk and thigh is greater than 90° and up to 135° by reclining in your chair or propping to achieve the declined sitting position. 120° is ideal!

The Reclined Sitting Position

H. J. Wilke (1998) conducted a study to determine the pressure in the lumbar discs in different postures by simulating a wide variety of people's working activities. He found that sitting in a reclining position noticeably reduces loading on the spinal column compared to upright sitting or leaning forward over the desk. This reclined sitting posture is supported by many researchers and confirms that a seat that enables us to adopt a semi reclined position and has a backrest that has a contoured shape of the spine will both minimize loads on the spine and maximize overall levels of reported comfort.

The Declined Sitting Position

Mandal (1981) argued that the seat surface should slope forwards and thus encourage an "open" hip angle which allows for a low back shaping closer to standing. This supports "Keegan's Normal Posture" (1953) which shows that stresses on the spine are most evenly distributed when the legs are at 135° from the trunk. A number of seat designs now incorporate this forward seat tilt mechanism.

However many users are not aware of how to use this mechanism nor how to achieve a comfortable work position. I have found that it also needs a higher seat and desk position. Other chair designs we have seen that use this posture include the kneeling chair and the saddle seating often seen in hairdressing salons, dentists etc.

The bottom line

Both the reclined and the declined sitting positions encourage the open hip angle. This minimizes the amount of pelvic rearward tilt. The more we move towards the upright sitting position of 90° hip flexion, the more rearward tilting the pelvis needs to do and so the more the inward lumbar curve becomes outward. This then results in more pressure on the discs.

Fiona McDonald
Ergonomist

Dunstan D.W. et al (2011): Prolonged sitting: is it a distinct coronary heart disease risk factor? *Curr Opin Cardiol*, Sep 26 (5): 412-419

Hedge A., Ray E.J. (2004): Effects of an electronic height adjustable worksurface on self-assessed musculoskeletal discomfort and productivity among computer workers. *Proc. HFES 48th Annual Meeting*, Sept 20-24. 1091-1095

Keegan J.J. (1953): Alterations of the lumbar curve related to posture & seating. *Journal of Bone & Joint Surgery*, 35A, 589-603

Mandal A.C. (1981): The seated man (*Homo sedens*): The seated work position, theory & practice. *Applied Ergonomics*, 12, 19-26

Wilke et al (1999): *Spine Vol 24 No 8* "New In Vivo measurements of pressures in Intervertebral Discs in Daily Life"