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Over the last few years the technology industry has invaded the exercise industry in a great many ways. You can now purchase devices and apps for your phone that:

- [Tell you when you are not getting enough exercise](#)
- [Measure sleep duration and quality](#)
- [Compare your best running and cycling performances with friends](#)
- [Track your fitness by recording the intensity and duration of training sessions](#)

These are all Good Things and, if you want to know more about them just click on the links above.
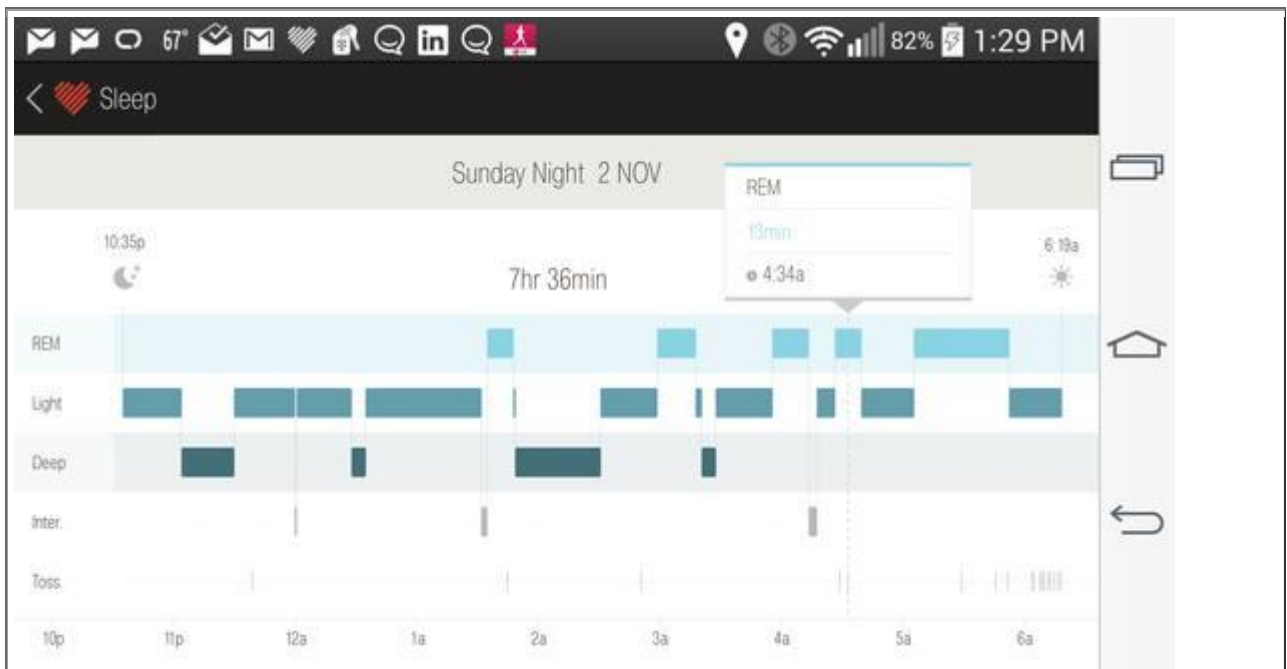
The *Basis Peak* is a top-rated device for tracking sleep quality

There is no doubt that some stress is good for you. The body responds to reasonable increases in physical stress by becoming stronger, so it can better handle higher stress levels in the future.

The problem comes when we attempt to increase performance at a pace faster than the body can absorb. This may be caused by a sudden and extreme increase in exercise routines, or by not giving the body sufficient recovery time between training sessions. The consequences of this are well documented: deterioration in physical performance, disrupted sleep patterns, increased irritability and ultimately the risk of compromised immune system response and onset of chronic fatigue-type conditions.

And too much exercise is not the only source of stress. We can also be stressed by a poor diet, too much alcohol, too little cash, too many family dramas, too little sleep, too much work, depression and so on. Exercise in moderate amounts is a useful way to reduce stress; too much exercise can take you over the natural limits your system can handle.

In this newsletter we examine some apps that help identify when you are becoming over-stressed – when you are approaching that point where more stress *in any form* may make you sick.

Other stuff
Gift horse - mouth - Skills Fund? Why are more

organisations not falling over themselves - yes, hurling themselves - at NDA and the Skills Fund? Where else can you obtain:

- High-level assistance in designing a training program for your entire organisation
- Tender writing at no cost
- Up to 90% of your entire training costs paid by the Skills Fund if the tender is accepted
- Accreditation in the form of a Statement of Attainment or qualification for all staff successfully completing the program.

The article below explains how you can benefit from this.

With warm regards

Nigel Davies
Director, NDA

You are receiving this newsletter either because you attended an NDA training course and ticked the relevant box on the course review form or because a friend subscribed you. You can unsubscribe automatically at any time by clicking the link at the bottom of the email.

Professional development planning 101

How to design a professional development program for the Skills Fund

A professional development program at its most basic should identify the skills required to perform competently each role in the organisation. It should identify the skills held by the staff occupying those roles and provide appropriately targeted training to bridge any observed skill gaps. The organisation may also look beyond current needs and seek to identify strategic skill sets to meet targeted future needs and, at a personal level, meet the career aspirations of individual staff.

This article outlines how this may be done to qualify for financial support from the Skills Fund.

Step 1 Identify requirements

This is best done on a one-to-one basis at annual performance reviews by management. Alternatively a questionnaire or online training needs analysis (TNA) can be used if staff are geographically dispersed or if time is short. Whichever method is used, we need to identify both the training required and

the potential value of the training - as measured by frequency of use or perceived significance.

NDA will design and deliver an online TNA for as little as $10 per person.

Step 2 Map training to the national curriculum to qualify for funding

To qualify for assistance from the Skills Fund, training must be delivered in the form of nationally-accredited skill sets or qualifications.

NDA has mapped training courses against skill sets and qualifications to make this possible. The only remaining decision is whether it is more cost effective to deliver training through individual skill sets or through complete qualifications.

Step 3 Write and submit an application to the Skills Fund

Naturally, Skills Tasmania will want to know what benefits you (the employer) and the government (the provider of funds) will derive from the training. Skills Tasmania will also want to know about the quality of your chosen training provider - as measured by their previous experience in delivering the chosen skill sets or qualifications and the percentage of successful completions.

NDA will write the tender for you at no charge. Your contribution is to explain how the training need was identified and how your organisation will benefit from the training.

Step 4 Success!

In previous years NDA has achieved an 85% success rate in tendering to the Skills Fund. If successful the Fund will pay up to 90% of training costs, depending on the number of full-time equivalent employees.

Now is a good time to get in touch with NDA and discuss planning a submission to the next round of the Skills Fund. Call us on 6334 4910.

Exercise and health

How much should you exercise?

Just as with diet, there are many opinions about how much exercise we need to maintain good health.

For some years five 30-minute sessions per week of moderate exercise was recommended. Recently, though, new research has suggested we can obtain the same benefit from six minutes of exercise a week in the form of four 30-second efforts at maximum intensity, repeated three times a week (harder than it might sound – trust me on this one).

While both of the above are targeted at cardio-vascular health, there are also benefits to be gained from resistance training, or weight lifting as it used to be called.

How much is too much?

For many people, it is difficult to find the Goldilocks zone where the amount of exercise you are getting is just right. It is too easy to be seduced by the feel-good endorphins produced by exercise in the body, and to be over-motivated by ambition to improve on your last session. Before you know it you are over-trained and sick.

So the problem for exercise junkies is, how much is enough, how much is too much and how can you identify the early warning signs when you begin to approach the limits of your physical capabilities?

Measuring over-training

If you have your own exercise physiology lab this is not a problem. There are many recognisable changes in blood chemistry that are markers of over-training. For the rest of us, though, it is a hit-and-miss affair based on a subjective assessment of performance, mood and sleep patterns.

One popular method is to check for an increase in resting heart rate, as measured first thing in the morning while lying in bed. When you are sick your

resting heart rate increases, and the theory is that over-training, as a form of sickness, also causes an increase in resting heart rate.

Some researchers contend that measuring the resting heart rate *while sleeping* is an even better marker. There are many [fitness trackers](#) that record your heart rate 24 x 7. Apart from all their other capabilities (such as recording gym, run and bike time), some can also record the duration and quality of your sleep, and also track your resting heart rate during sleep and on waking.

One of the most recent developments in fitness apps is the use of heart rate variability as a measure of general health and as a warning of potential over-training.

Heart rate variability as a marker of health

Your heart does not beat like a Swiss watch in a precisely regular fashion. No, it's more like a Taiwanese knock-off, with irregular gaps between beats. Perhaps counter-intuitively, a variable heart rate is a sign of good health and the more variable your heart rate the better. One of the signs of failing health is a heart rate that loses variability and becomes more regular. Because of this we can use heart rate variability (HRV) to measure our response to training and provide an early warning of over-training. We can also use it to detect the early stages of an infection or other health issue and modify behaviour accordingly.

There are several apps available that record heart rate, calculate HRV and make recommendations on whether or not you should adjust your training or lifestyle. On iOS there is [HRV4](#), and on Android, [iThlete](#) and [Elite HRV](#).

The Android apps require the wearing of a heart rate monitor strap or finger sensor to measure heart rate. The HRV4 app makes convenient use of the smartphone camera. You place your finger over the lens and the camera flash illuminates blood passing through the capillaries and measures heart rate and HRV.

The HRV4 Training app uses your phone's camera and flash to measure heart rate

The following review is of the HRV4 app.

Measuring and interpreting heart rate variability

The HRV4 app can be purchased from Apple's app store for $8.99. This may seem expensive in comparison with many apps but, for the cost of a couple of cups of coffee, is remarkably inexpensive for the potential benefits.

The first step in using the app is to establish a baseline for your personal heart rate variability by measuring resting heart rate for seven days. This is best done in a consistent manner first thing in the morning before getting out of bed. Once a baseline is established the app uses departures from the baseline to advise on general health and activity levels.

Interpreting the data

Let's say you record HRV in the morning; it has risen slightly from the previous day and the general trend over the previous few days is upwards. This is an indication that the body is successfully adapting to training and the app gives the all clear to train as hard as you wish.

*"Your condition has improved since yesterday and is above baseline.
Go ahead with intense training"*

A second scenario might see heart rate variability more or less steady over several days and then a sudden dip. This may be interpreted as a decline in general health, most likely caused by an increase in stress on the previous day. The increase in stress could be any one or a combination of hard training sessions, the first signs of a viral infection, work stress etc. The app will recommend that you reduce stress - either by reducing the training planned for that day or by taking a complete rest.

A third scenario might be a rise in daily HRV (health has improved!) but within a baseline of average HRV falling over a number of days. The falling HRV may be due to heavy training workloads, or other sources of stress, to which the body has not successfully adapted. In this instance the app may recommend that you continue training but with limited intensity.

The target benefit of all the above is to obtain an early warning of impending sickness or declining health, and taking it easy to avoid making the situation worse.

Other benefits

Every time you measure resting heart rate you can also record responses to questions about your activities on the previous day:
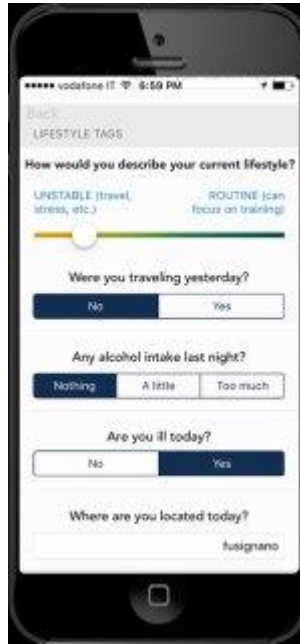
Once readings have been recorded for a sufficient number of days the app will correlate HRV (and hence general health) against your subjective assessments and pattern of activities on previous days. This may help to identify particular activities that have a negative effect on your health. The subjective assessments are also taken into account in making recommendations for the day's activities.

"Your HRV is within your normal values. However your subjective scores are trending negatively. Go ahead and train, but limit intensity."

Summary

I have been using this app for a couple of months and find the daily recommendations a useful reminder to take it easy sometimes.

What's up at NDA
Registered Training Organisations (RTOs) were in the news for all the wrong reasons earlier this year, as some RTOs made tens of millions of dollars by selling government-funded qualifications to disadvantaged and disabled people who were never likely to graduate. Other RTOs have been criticised for certifying people as competent in potentially critical disciplines such as fork-lift operation or aged care, without offering any training.

So we are happy to announce that NDA's accreditation as an RTO has been extended for seven years through to 2023. Unlike the fly-by-nights, NDA has been an RTO since 2001 and around seventy percent of our clients successfully complete qualifications - nearly three times the national average. Clients studying for qualifications are also able to attend relevant NDA training courses free of charge.

We offer the following qualifications:

Business Services qualifications BSB

›› BSB20115 - Certificate II in Business
›› BSB30115 - Certificate III in Business
›› BSB30415 - Certificate III in Business Administration
›› BSB40215 - Certificate IV in Business
›› BSB40515 - Certificate IV in Business Administration
›› BSB41015 - Certificate IV in Human Resources
›› BSB41515 - Certificate IV in Project Management Practice
›› BSB42015 - Certificate IV in Leadership and Management
›› BSB50215 - Diploma of Business
›› BSB50415 - Diploma of Business Administration
›› BSB50615 - Diploma of Human Resources Management
›› BSB51415 - Diploma of Project Management
›› BSB51915 - Diploma of Leadership and Management

Information Technology qualifications ICT

›› ICT20115 Certificate II in Information, Digital Media and Technology
›› ICT30115 Certificate III in Information, Digital Media and Technology
›› ICT40115 Certificate IV in Information Technology
›› ICT40215 Certificate IV in Information Technology Support
›› ICT40415 Certificate IV in Information Technology Networking
›› ICT50315 Diploma of Information Technology Systems Administration
›› ICT50415 Diploma of Information Technology Networking

Training and Assessment qualification

›› TAE40110 - Certificate IV in Training & Assessment

Call Chris on 6334 4910 for more information on any of the above.

Forthcoming training courses

The following NDA courses are scheduled for presentation soon.

Hobart IT Courses
Excel Introductory 6/8 Jun - $480 **full**
Excel Intermediate 8/9 Jun - $480 **full**
Excel Advanced 9/10 Jun - $480
MYOB Advanced 7 Jun - $285
Access Introductory 15/16 Jun - $480
InDesign Introductory 20 Jun - $285
Excel Introductory 22/23 Jun - $480
Excel Intermediate 22/23 Jun - $480
Publisher 24 Jun - $240
Excel Introductory 4/6 Jul - $480 **1 space only**
Excel Intermediate 6/7 Jul - $480 **full**
Excel Advanced 7/8 Jul - $480
MYOB Payroll 11 Jul - $285

Hobart Business Skills Courses
Managing Successful Projects 16/17 Jun - $570 **full**
Conflict Resolution 6 Jul - $285
Managing Successful Projects 25/26 Aug - $570

Launceston IT Courses
MYOB Advanced 14 Jun - $285
MYOB Setup and Operation 20/21 Jun - $570
Publisher 24 Jun - $240
Excel Intermediate 6/7 Jul - $480
Excel Advanced 7/8 Jul - $480
MYOB Payroll 12 Jul - $285

Launceston Business Skills Courses
Workplace Health & Safety 15 Jun - 285
Conflict Resolution 6 Jul - $285

Devonport IT Courses
Excel Intermediate 8/9 Jun - $480
Excel Advanced 9/10 Jun - $480
Project 15/16 Jun - $480

[Access Introductory](#) 22/23 Jun - $480
[Publisher](#) 24 Jun - $240
[Excel Introductory](#) 30 Jun / 1 Jul - $480
[Excel Intermediate](#) 1/4 Jul - $480

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