

Contents

Editorial

- 01 Message from the Managing Director & Director

Cover Story

- 02-04 Wastewater: How to Recycle That Last Bit

Features

- 05-06 Probiotics-Friendly Microflora
07-08 The Corn Refining Process
09-12 The Glycaemic Index of Beer



Health

- 13 Health Tips for Corporate Employees

Series 02

- 14-16 21 Tips you Should Follow to Secure your Banking Transactions



Career Tips

- 17-20 Interpersonal Relationship at Workplace
21-22 Skip the Resolutions-But Break This Habit in 2016!

Parenting

- 23-24 Good Posture & Self Esteem
25-27 Employees Zone

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MESSAGE FROM THE MANAGING DIRECTOR



Year after year, Catalyst Group has delivered milestones to set exemplary standards in the industry. The year 2015 so far has been no different. We have further enhanced our position in the market as the leading industrial enzymes company in the country. We have also made our utmost efforts for the growth of the industry as a whole. This has been our business philosophy since inception and we are proud to have sustained it immaculately.

Catalyst Group has established and enjoys a very positive reputation across our business. Our reputation influences so many aspects of our company-the way our customers feel about our products and services; the way our associates feel about our association and the way our employees feel the pride of working here!

Respect, ownership, hard work, innovation, honesty and integrity are the values at the heart of our work culture. Wherever we may work and whatever be our role, we are all responsible for upholding these principles and behaviors in accordance with the highest standards. We share a common set of belief: "We get things done"; "We love what we do"; "We do what we say"; "We constantly

innovate", and "We work as one!"

The year 2016 will be an exciting time for the Catalyst Group as we look forward to grow our business with our strategy firmly focused on our clients and associates. Our mission is to be the leader in client relationships and focus on our values.

I wish you and your families a very healthy and prosperous new year 2016!

Enjoy the journey of life!

A handwritten signature in blue ink, appearing to read 'Munish Madan', with a stylized flourish underneath.

Munish Madan

MESSAGE FROM THE DIRECTOR



Greetings for a successful and action packed 2015 and best wishes for a happy and achievement filled 2016. We continue to steam ahead towards our goal to make Catalysts the largest biotech company in India!! The last quarter saw some significant breakthroughs in the Brewery and Grain verticals as well as new additions to our team. Congratulations and welcome!! The Sugar season has started, albeit a little late and we are prepared to take on the challenges presented to us this year in terms to higher recirculations of waste water, drought in the Western region and tougher competition to deal with.

I am sure, armed with trainings provided and new products developed by our R&D, we shall overcome all the above challenges and make this year another feather in our success cap.

A handwritten signature in blue ink, appearing to read 'Aditya Malhotra', with a stylized flourish underneath.

Aditya Malhotra



Wastewater: How to Recycle That Last Bit

Dharmender Pathak, Research & Development Department

Industrial wastewater treatment is the industrial-scale processes that makes water more acceptable for an end-use, which can be for drinking, recycling, irrigation and discharging of natural water bodies. Waste water treatment removes existing organics, heavy metals and microbial contaminants from water or so reduce their concentration and thus making water fit for its desired end-use, which can be safely returning used water to the environment.

The term "Wastewater Treatment" generally refers to a process to convert wastewater - which is water no longer needed or suitable for its most recent use - into an effluent that can be either returned to the water cycle with minimal environmental issues or reused.

The processes involved in treating water for industrial purposes by self-generated waste water to provide a reusable source of water supply, may be solids separation using physical processes such as settling and filtration, microbiological degradation such as aerobic & anaerobic digestion and chemical processes such as disinfection and coagulation.

Now a days, waste water (effluent) management for ethanol production distilleries is a very difficult task due to strict norm of NGT imposed on these industries for zero effluent discharge. Maintaining this practice for most of the ethanol production industries are not at all possible. Waste (effluent) of ethanol manufacturing industries is majorly contributed by spent wash with some other streams like water used in washing/cleaning, pantry discharges, etc. Many of the ethanol industries are currently using conventional processes for effluent treatment and their disposal; which includes bio-methanation, ferti-irrigation, reverse osmosis and bio composting. These conventional treatment methods are also not that much efficient to achieve zero discharge. In term to achieve Zero Liquid Discharge (ZLD), most of the industries are focusing on incineration and or evaporator technology. This technology evaporates liquid and incinerate solids to achieve ZLD but it also has very difficult and cost consuming processes.

On other hand, recycling of treated effluent within the process is also considerable technology but due to high salt concentration and toxicity in effluent; it is very difficult to recycle the spent wash (effluent) over a limit may vary from none to 10/15 % depending on the nature & characteristics of effluent. This recycle technology will be the future best adaptable technology due to some of the main inherent benefits like;

- Minimize the cost of effluent treatment
- Minimize the cost of capital expenses (CAPEX)
- Minimize the dependency & input cost for fresh water
- Minimize effluent generation
- Helps to achieve ZLD

COVER STORY



- Helps to create better environment for nature
- Energy & Manpower saving
- Carbon credit, etc.

As discussed earlier that complete recycling of effluent with in the process is a very difficult task and now a day it's around maximum 10 – 15 % recyclable quantity against generation of total effluent.

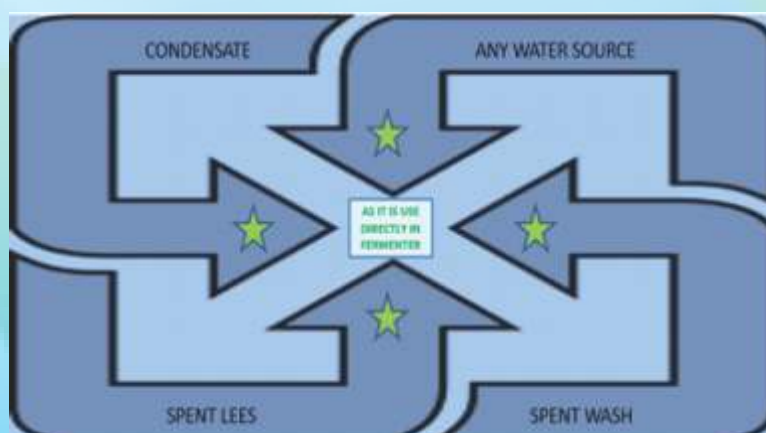
Catalysts Biotechnologies Pvt. Ltd. is working as a pioneer in this direction for increasing recyclable quantity to help ZLD and minimize the treatment cost of effluent. Catalysts Biotechnologies Pvt. Ltd. is providing the best and environmentally safe solution to increase the recycling of effluent; which directly and indirectly supports ZLD and makes lives better.

ENZYREAT PLUS is a liquid Enzyme mixture designed for application in Molasses and Grain based Distilleries. The scarcity of valuable freshwater resources, generally industries prefers natural water resources like underground water, canal water, river water, etc. and/or recycling of waste water streams produced with in the Distilleries.

The recycling of generated streams i.e., spent lees, RO permeate, process condensate, spent wash or thin slops do help to meet ZLD, but significantly reduce process yield due to high TDS and high microbial contamination level. These streams have significant level of salts & micro flora's, which are thriving in such conditions and fastidiously grow in pre-fermenter and fermenters resulting some hindrances in process, like;

- Increase forming during propagation & fermentation
- High volatile acidity formation
- Decrease yeast health and productivity
- Increased competition between yeast & contaminants
- Slime production
- Increase antifoam consumption, etc.

To control these micro-organisms to propagate with in process, Catalysts provides a unique solution, formulated as Enzytreat Plus.





COVER STORY

PRINCIPLE BENEFITS

- Improves ethanol fermentation efficiency
- Increase waste water recycle directly without affecting fermentation efficiency
- Decrease the uses of fresh water in process
- Controls the volatile acids formation within process
- Improve spent wash quality by mean of volatile acidity & microbial contamination
- Improves other fresh/waste water streams too

ENVIRONMENTAL & ECONOMICAL BENEFITS

- Prevent amount of revenue loses using in treatment of waste water
- Preserve fresh water by recycling such streams directly to fermenter
- Preserve wastage of carbon credits in waste water treatment
- Decrease the toxicity discharge amount to environment
- Eco-friendly and clean product with inexpensive and smooth operation

DOSING POINTS

Enzytreat Plus should be applied directly in the tank which stores the process water/waste streams or it can be used in the fermenter directly at the time stream filling.

DOSING PATTERN

Enzytreat plus is recommended to use at 20-25 ppm on process water and/or recycle stream volume, when used in storage tank of these streams.

RECOMMENDATIONS

To increase the amount of recycled stream in fermenter; it is necessary to use Enzytreat Plus within the same setup and with same running recycled quantity for 5-7 days; it will improve the quality of spent wash. After that increase the amount of recycle steam by 5 % of fermenter volume and stabilize for next 3-4 fermentation cycles then again increase 5 % with repeating the same exercise.

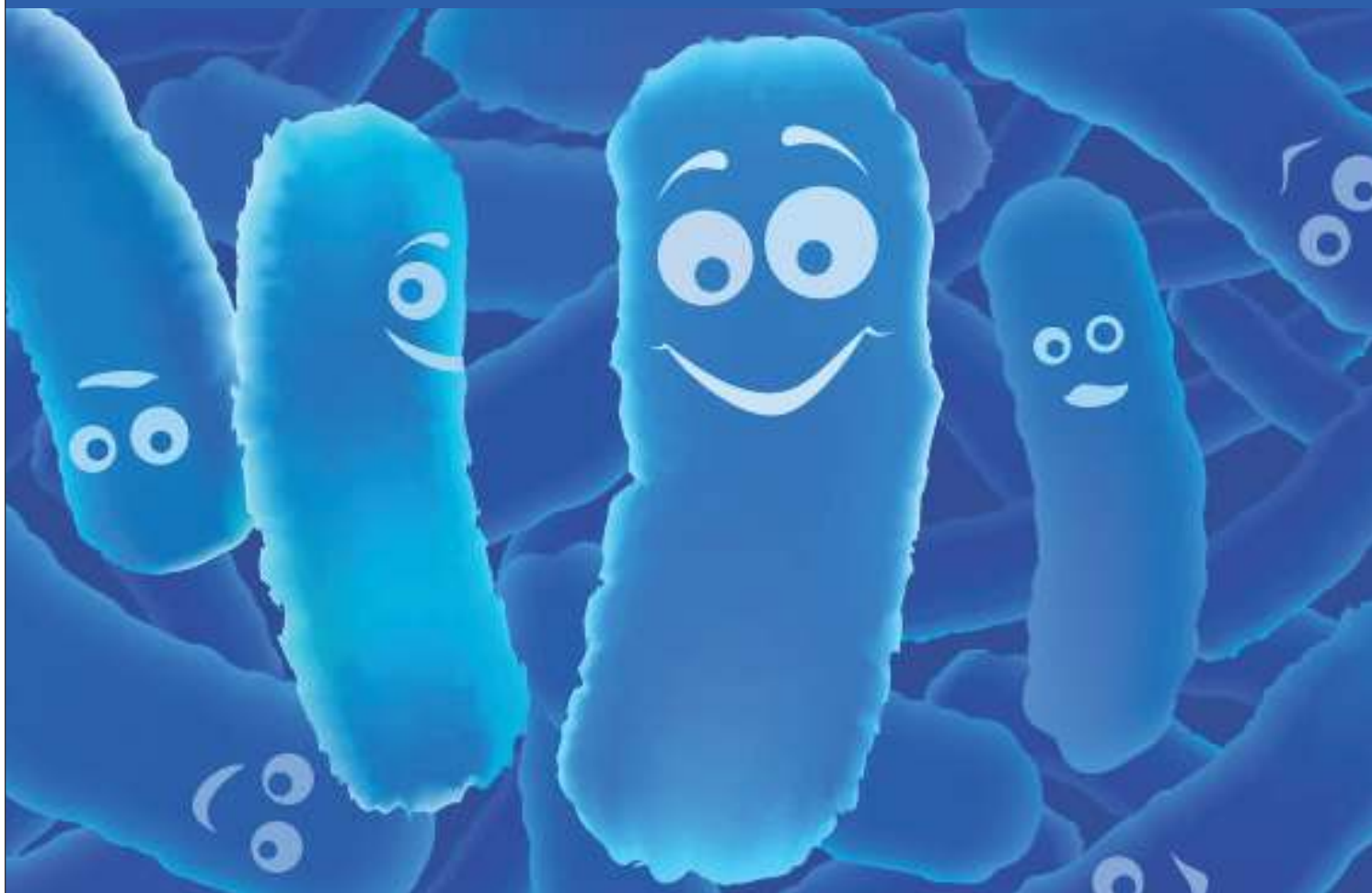
PRINCIPLE BEHIND RECYCLING

Toxicity & Volatile acidity in spent wash $\propto \frac{1}{\text{\% recycled stream quantity}}$

Improvement in spent wash quality $\propto \text{\% recycled stream quantity}$

Probiotics - Friendly Microflora

Dr Jai Shankar Arya, Research & Development Department



Our human body is surrounded and encompasses numerous kind of microflora. Among those some are respectable and some harmful. Some of harmful microflora come in the category of disease causing microflora called 'Pathogens'. They are responsible for many diseases in human and animals. If the diseases are not treated properly on time it may become fatal. On the other hand, a groups of microflora present in host (human/animal) body, participate in biological activities for the improvement of host health by improving immune system known as friendly 'Microflora'.

If we look about the distribution of site specific bacteria phyla in healthy human, it is like this, in Mouth-56, Oesophagus-43, Stomach-25, Colon-195, Vagina-5 and Skin-48.

Basis literature, colon is the richest source of friendly bacterial species. Mucous membrane of the colon is the unique environment where different bacterial species are able to survive and to express their effects. There is about 1014 bacteria of 200 species, 40–50 genera live on these surfaces. 99% of the whole bacterial population on mucous membranes occur in the distal segment of the small intestine and in the proximal part

FEATURES

of the colon.

Microflora of the gastrointestinal tract plays a crucial role in the anatomical, physiological and immunological development of the host. It stimulates the immune system to respond rapidly to infection with pathogens and through bacterial antagonism it inhibits the colonization of the gut by harmful or pathogenic bacteria. Such beneficial microflora are called 'Probiotics'. Probiotics are live micro-organisms that when administered in adequate amounts confer a health benefit on the host (UNFAO/WHO 2001).

Probiotics are commonly isolated from human and animal intestinal tracts. It consists of species belonging to the families Bacteroides, Fusobacterium, Butyrivibrio, Clostridium, Bifidobacterium, Eubacterium and Lactocillus. Enterococcus and Escherichia coli constitute less than 1% of all intestine micro-organisms. Anaerobes dominate upon facultative anaerobes and microaerophiles at the ratio of 1000:1. A dominant flora represents 90% of the population, essentially composed of bifidobacteria and lactobacilli. The residual or fluctuating flora (less than 0.01%) of the population is more diversified and contains the potentially pathogenic species.

Now a days, the use of probiotics has become widely accepted as a natural means to promote health for both humans and animals. Today, probiotics are used as health supplements in food & feeds and they are replacing the use of antibiotic growth promoters or chemical supplements. Because of their perceived health benefits, probiotics have been incorporated into a range of dairy products, including yoghurts, cheese, ice cream, milk powders and frozen dairy desserts. Under the right conditions, the claims made for probiotic preparations can be realized.

The development of suitable technology for probiotic production, taking into account viability and stability, is a key area of research for industrial production. Production of probiotics should be based on the microbial criteria and the ability to withstand stress during processing and storage of products is important. Thermophilic/thermos-tolerant probiotics are of great interest in this area as they can have all the desired characteristics. The development of suitable probiotics in food and feed needs good proof of their efficacy and function in order to be accepted as a valuable product.

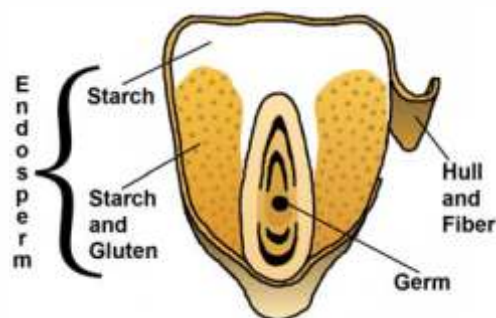
The 'Microencapsulation' is one of the technique which can enhance the viability of probiotic micro-organisms to enhance during fermentation, processing and utilization in commercial products.

The Corn Refining Process

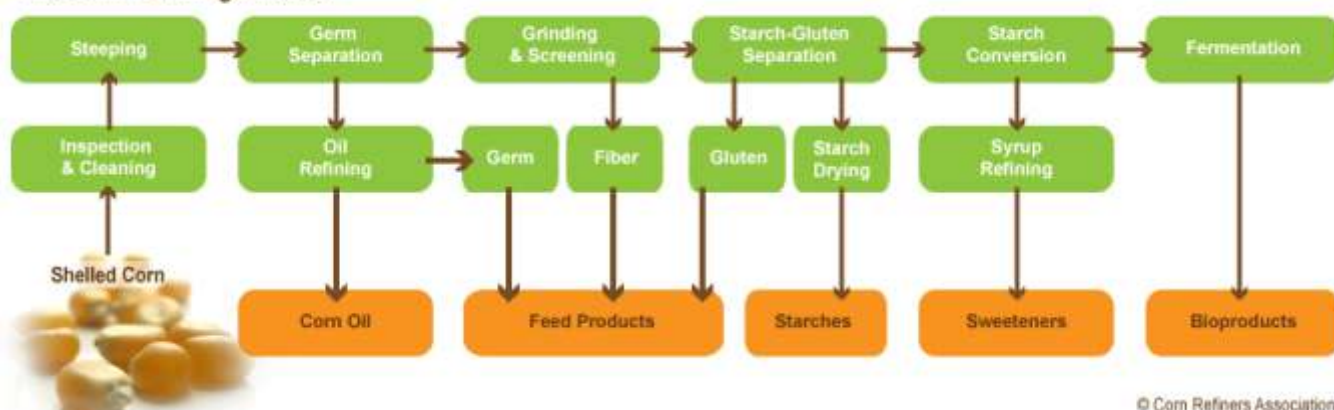
Prabhat Yadav, Business Development Department

For more than 150 years, corn refiners have been perfecting the process of separating corn into its component parts to create a myriad of value added products. The corn wet milling process separates corn into its four basic components: starch, germ, fiber and protein.

There are 5 basic steps to accomplish this process. First the incoming corn is inspected and cleaned. Then it is steeped for 30 to 40 hours to begin breaking the starch and protein bonds. The next step in the process involves a coarse grind to separate the germ from the rest of the kernel. The remaining slurry consisting of fiber, starch and protein is finely ground and screened to separate the fiber from the starch and protein. The starch is separated from the remaining slurry in hydrocyclones. The starch then can be converted to syrup or it can be made into several other products through a fermentation process.



The Corn Refining Process



© Corn Refiners Association

INSPECTION & CLEANING

Corn refiners use #2 yellow dent corn, which is removed from the cob during harvesting. An average bushel of yellow dent corn weighs 56 pounds. Approximately 70% of the kernel is starch (from the endosperm), about 10% is protein (predominantly gluten), 4% is oil (extracted from the germ) and 2% is fiber (from the hull). It is the goal of the corn refining process to separate each component and then further refine it into specific products.

Corn arrives at the refining facility by truck, barge or railcar. Refinery staff inspect arriving corn shipments and clean them twice to remove pieces of cob, dust, chaff and foreign materials. The corn is then conveyed to storage silos, holding up to 3,50,000 bushels, until ready to go to the refinery for steeping, the first processing step.

STEEPING

Each stainless steel steep tank holds about 3,000 bushels of corn for 30 to 40 hours of soaking in 50° Celsius water. During steeping, the kernels absorb water, increasing their moisture levels from 15% to 45% and more than doubling in size. The addition of 0.1% Sulphur Dioxide to the water prevents excessive bacterial growth

FEATURES

in the warm environment. As the corn swells and softens, the mild acidity of the steep water begins to loosen the gluten bonds within the corn and release the starch. After steeping, the corn is coarsely ground to break the germ loose from other components. Steep water is condensed to capture nutrients in the water for use in animal feeds and for a nutrient for later fermentation processes. The ground corn, in a water slurry, flows to the germ separators.

GERM SEPARATION

Cyclone separators spin the low density corn germ out of the slurry. The germs, containing about 85% of corn's oil, are pumped onto screens and washed repeatedly to remove any starch left in the mixture. A combination of mechanical and solvent processes extracts the oil from the germ. The oil is then refined and filtered into finished corn oil. The germ residue is saved as another useful component of animal feeds.

FINE GRINDING & SCREENING

The corn and water slurry leaves the germ separator for a second, more thorough, grinding in an impact or attrition-impact mill to release the starch and gluten from the fiber in the kernel. The suspension of starch, gluten and fiber flows over fixed concave screens, which catch fiber but allow starch and gluten to pass through. The fiber is collected, slurried and screened again to reclaim any residual starch or protein, then piped to the feed house as a major ingredient of animal feeds. The starch-gluten suspension, called mill starch, is piped to the starch separators.

STARCH SEPARATION

Gluten has a low density compared to starch. By passing mill starch through a centrifuge, the gluten is readily spun out for use in animal feeds. The starch, with just 1-2% protein remaining, is diluted, washed 8 to 14 times, rediluted and washed again in hydroclones to remove the last trace of protein and produce high quality starch, typically more than 99.5% pure. Some of the starch is dried and marketed as unmodified corn starch, some is modified into specialty starches, but most is converted into corn syrups and glucose.

SYRUP CONVERSION

Starch, suspended in water, is liquefied in the presence of acid and/or enzymes which convert the starch to a low-glucose solution. Treatment with another enzyme continues the conversion process. Throughout the process, refiners can halt acid or enzyme actions at key points to produce the right mixture of sugars like glucose and maltose for syrups to meet different needs. In some syrups, the conversion of starch to sugars is halted at an early stage to produce low-to-medium sweetness syrups. In others, the conversion is allowed to proceed until the syrup is nearly all glucose. The syrup is refined in filters, centrifuges, and ion-exchange columns and excess water is evaporated. Syrups are sold directly, crystallized into pure glucose, or processed further to create high fructose corn syrup.

FERMENTATION

Glucose is one of the most fermentable of all of the sugars. Following conversion of starch to glucose, many corn refiners pipe glucose to fermentation facilities where the glucose is converted to alcohol by traditional yeast fermentation or to amino acids and other bio-products through either yeast or bacterial fermentation.

After fermentation, the resulting broth is distilled to recover alcohol or concentrated through membrane separation to produce other bioproducts. Carbon dioxide from fermentation is recaptured for sale and nutrients remaining after fermentation are used as components of animal feed ingredients.

THE GLYCAEMIC INDEX OF BEER

Rohit Chauhan, Business Development Department

According to Sir John Krebs, Chairman of the UK Food Standards Authority, 'If nothing is done to stop the trend (in obesity), for the first time in 100 years life expectancy will actually go down'. Alarmist as this statement sounds, Sir John has not lost his sense of proportion. Indeed governments have now recognised obesity as a major epidemic.



Thus weight-loss diets and the labeling of 'healthy' foods are here to stay. Rating foods by **Glycaemic Index** (GI) is one of the tools being proposed in many popular weight-loss diets, and this article presents the results from an project to measure the GI of beer.

FAT FACTS

Nothing spurs a government into action as fast as losing money. Obesity carries with it the risk of many chronic diseases including cardiovascular disease, type-2 diabetes and cancer all of which impact on healthcare costs. In Australia, where obesity rates have doubled over the last twenty years, conservative estimates are that treating the complications from obesity costs in the order of A\$1.3 million per annum. In Europe, 7% of the total healthcare costs of the EU are spent on obesity-related illnesses.

FEATURES

Not surprisingly, reducing levels of obesity has become a priority for governments and healthcare professionals. The way forward is clearly a public health strategy encompassing increased exercise and improved diet for the population as a whole. One method proposed by some dieticians is adjusting the diet in favour of low GI foods.

WHAT IS THE GI?

The GI of foods is a value used to rank foods according to how much they raise blood sugar after consumption. The scoring system runs between 0-100, with high values indicating foods which are rapidly digested to produce glucose in the bloodstream. As such, high GI foods produce more rapid changes in blood sugar. Low GI foods would be characterised by containing more complex carbohydrates that are digested slowly, thus the rate of release of glucose into the bloodstream is also slower. (see panel for more details)

Some researchers have suggested that low GI diets may help to reduce weight gain and also reduce the risk of type-2 diabetes. While there is not yet general agreement among dieticians as to whether GI is effective in this arena, many popular diets are touting the benefits of low GI diets. In anticipation of GI becoming a health trend, the IBD Charitable Trust funded BRI to carry out a project to measure the GI of beer.

THE GI TESTING PROTOCOL

Measuring the GI of foods requires fasting volunteers to consume a portion of the test food containing 50g of carbohydrate in 15 minutes. Their blood glucose levels are then monitored over 2 hours. This experiment is then repeated with 50g glucose. The test food and glucose responses are compared and the test food expressed as a percentage of the glucose control. For example, spaghetti produces 41% of the response compared to pure glucose and therefore has a GI of 41.

Since carrying out this test with beer would involve consuming 1.5 litres in 15 min, this procedure could not be used to measure the GI of beer. Recently, testing centres validated a test with 25g carbohydrate, which made it possible to measure the GI of beer; the only proviso was that the carbohydrate content of the beer needed to be over 3.6g/100ml to be eligible for testing.

We also wanted to find out whether alcohol could influence GI, since this is another parameter that varies widely between beers and could potentially affect the absorption of sugars and even insulin levels. For these reasons, an alcohol-free lager was included as one of the beers for GI testing.

RESULTS

The human trials to measure GI were a success and no volunteers were lost in the process-in fact, reports were that they enjoyed doing the test! While we expected that the test would be no hardship, we were surprised by the outcome of the work. The data generated by these volunteers is shown in Table 1 and shows that in all four cases, the GI values for the beers were approximately 100; in other words, all beers had a 'high' GI. This led us to the conclusion that neither the quality of carbohydrates in the beer nor the alcohol content

FEATURES

influenced GI. Therefore, although only 4 beers were tested for GI, it seems probable that all beers, regardless of style, will have equally high GIs!

TABLE 1: SUMMARY OF THE GI VALUES AND CARBOHYDRATE QUALITY OF TESTED BEERS

| Beer | Total carbohydrate (g/100ml) | % simple/total carbohydrate | ABV | GI |
|-------|---------------------------------|--------------------------------|-----|---------|
| Ale 1 | 4.42 | 35 | 6.1 | 101± 16 |
| Ale 2 | 3.9 | 15 | 4.5 | 103± 19 |
| Lager | 4.14 | 10 | 0 | 120± 24 |
| Stout | 3.9 | 2.5 | 5.0 | 106± 18 |

Please note that the error ranges are typical and due to individual variation between test volunteers. GI testing was carried out at RSSL, Reading, UK.

Although a high GI value for beer was disappointing, the upside was that a 'blanket' GI value for beer saves brewers the £2,000 fee for getting each of their brands tested.

THE GLYCAEMIC LOAD IS A MORE IMPORTANT MEASURE

While these data may be viewed as discouraging, this is not the end of the story: GI values can be misleading, as they do not take into account serving size. For example, both chocolate cake and apples have a GI of 38, but would clearly not be equally beneficial to those on a diet! The reason for this is that the brownie has more carbohydrates in a serving than an apple. Therefore, the measurement **Glycaemic Load (GL)** has been developed to allow for the amount of carbohydrates in a typical portion. This is calculated from GI using the following equation:

$$GL = \frac{GI}{100} \cdot \text{g carbohydrate/serving}$$

As a guide, a GL of 0–10 is considered 'low', 11–19 is considered 'medium' and a GL >20 is considered to be 'high'.

As we all know, the carbohydrate content of beer is low, and so when carbohydrates per serving are introduced into the discussion the results look somewhat different. For example, using a GI value of 100, the GL of beer can be calculated based on the carbohydrates in a serving. A typical beer with a carbohydrate content of 2–3 g/100ml, would have a low-medium GL for a 330ml serving size. It should be noted that two servings will double the GL value!

OFFERING CONSUMER ADVICE

So what information should we be passing onto consumers? Ideally we should offer values for both GI and GL. As long as brewers know the carbohydrate content of their beers, the GI and GL can be easily calculated and should be reasonably accurate.

FEATURES

However, we should also be aware that GI and GL are often confused: Because GL allows for serving size, it is possible for foods with a low GI also to have a high GL. To illustrate this point, consider Coca Cola and beer. Coca Cola has a GI half that of beer, but the carbohydrates per serving of Coca cola are three times higher than in beer. Therefore Coca Cola has a higher GL than beer.

Table 2 compares the GL for several beverages and shows that beer is very much on a par with other beverages.

Table 2: The GI and GL values of beverages

| Beverage | GI | Serving size (g) | carbohydrate(g) /serving | GL |
|----------------|-----|------------------|-----------------------------|------|
| Apple juice | 40 | 262 | 24.5 | 10.6 |
| Orange juice | 53 | 263 | 18.7 | 9.9 |
| Semi-skim milk | 34 | 150 | 19.8 | 4 |
| Coca cola | 53 | 261 | 27.1 | 14.4 |
| Chocolate milk | 45 | 50 | 31 | 14 |
| RTD | 73 | 330ml | 19.7 | 14.4 |
| Beer | 100 | pint | 14.2 | 14.2 |
| Beer | 100 | 330ml | 8.25 | 8.25 |

Data are taken from the University of Sydney database (www.glycemicindex.com). This table does not include beverages such as coffee and tea since their carbohydrate contents are too low to measure GI or GL

CONCLUSIONS

With the prospect of increasing government pressure to define foods as 'healthy' or 'unhealthy' it is important that we know where we stand with beer. Although we do not yet know what the government stance with respect to GI will be, it is likely to play a part in dietary guidelines in the future. The aim of this IBD-funded project was to provide brewers with authoritative information the GI of their brands and the conclusion is that all beers, regardless of style or alcohol content have a high GI. However, because beers have a low carbohydrate content per serving size, we can add to this information that beer has a low-to-medium GL.

Looking to the future, one criticism of GI values is that they do not take into account the possible synergistic effects of foods and beverages consumed together. In other words, if beer is consumed with a meal, would the summing of the GI values of the individual meal components reflect the effects on glucose in the bloodstream? Unpublished information from the University of Sydney has suggested that beer may suppress the GI of a meal and it would be very interesting to follow up this work with volunteers and assess the effect of beer on GI under more typical everyday patterns of consumption. Such information could help those trying to loose weight but being reluctant to give up beer. Anyone wishing to fund such a project, should feel free to contact the author using the details below.

Source: By Dr Caroline Walker; Brewing Research International

Health Tips For Corporate Employees



Taxing nine-to-five jobs, long hours in front of a computer screen, uneven sleeping patterns and diet issues sum up the lives of most corporate employees. To lead a healthy and fit life, they should keep water handy, carry home cooked food and more, says an expert.

CARRY A WATER BOTTLE WHEREVER YOU GO

Keeping water handy is a good idea. Sometimes, if you're working, you'll just forget to drink water for a long period of time. Also, you should sip on water or a fruit-based drink.

HOME-COOKED FOOD

Nothing substitutes a nutritious salad or a wholesome meal from home. It's best if you eat home-cooked 'dal chawal'. If you happen to stay away from your family or if you're too busy to pack

your lunch, there are a good number of startups delivering home-cooked food and fresh salads. Try using the services of such startups instead of ordering from fast food joints, which do you no good.

REFRAIN FROM STRAINING YOUR BACK

Yes, it's enjoyable to sit on that comfortable office chair with your back reclined in odd postures, but it does actual damage to your spine and it's high time that you start sitting in proper postures. Be sure the back is aligned against the back of the office chair. Avoid slouching or leaning forward.

SLEEP PAYS OFF

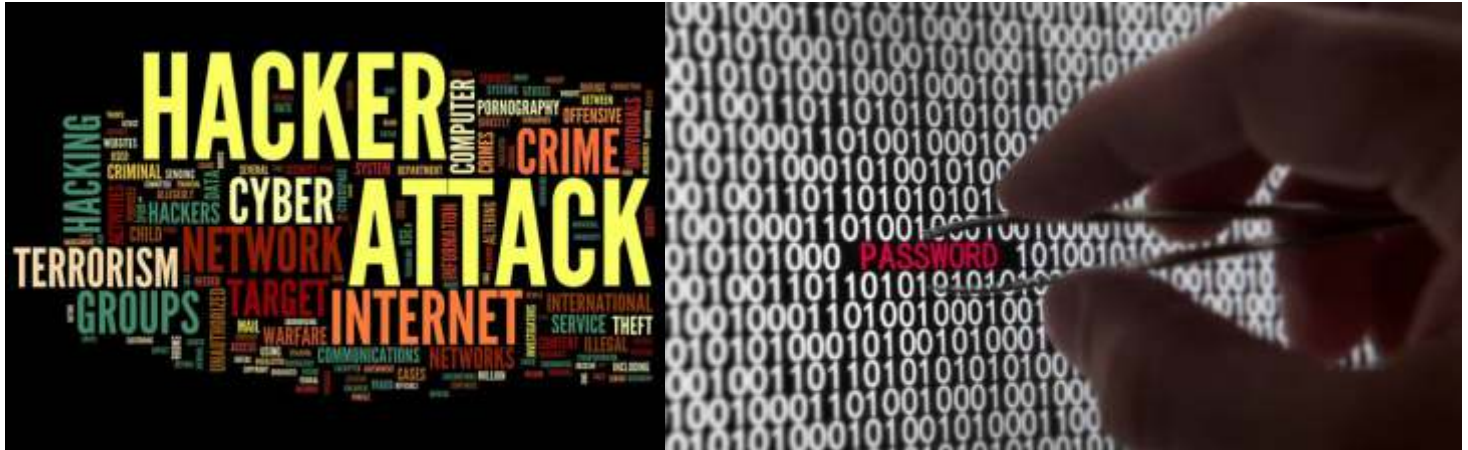
Believe it or not, but getting even 30 minutes less sleep than your body requirement can have short and long-term consequences on health, mood and performance. It's good to maintain a regular sleep schedule, with at least eight hours of sleep every day, even on the weekends.

KICK THE CAFFEINE HABIT

It's a well-known fact that caffeine interferes with your sleep. Avoid tea, coffee and soft drinks close to bedtime. Instead, go for a glass of fresh juice in the morning and a cup of green tea in the evening.

21 tips you should follow to secure your banking transactions

Monish Goyal, Accounts Department



In our last edition, we had given 9 tips you should follow to secure your banking transactions. Lets have a quick recap of them:

1. Scratch your CVV Number
2. Make Sure your Internet Banking Password is Very Strong
3. Make Sure you have SMS Alerts Enabled for Any Amount
4. Make Sure you Buy Insurance for your Wallet and its Contents
5. Don't Let Others Punch your PIN at Restaurants or Petrol Pump
6. Do Not Save your Banking Passwords in Phone or Email in Plain English
7. Never share your CVV/Expiry Date to Anyone on Telephone or Email Ever
8. While Using your ATM Card, Make Sure you Block the View of Others
9. Make Sure your Computer Firewall is Turned on and have Running Antivirus Software

Lets talk about another set of simple tips and precautions which you should take in your banking and while transacting with debit/credit cards online.

10. USE VIRTUAL KEYBOARD IF POSSIBLE

You must have seen a keyboard kind of interface which can be used while typing password and username, whenever possible to make sure you are safe. As explained before, there are programs like 'Spy Ware', which can detect which keys are you hitting and can steal that data. But when you use the virtual keyboard, it can only record which keys you pressed because it's not happening on your computer, but on the bank server.



11. NEVER ACCESS YOUR INTERNET BANKING PASSWORDS AND ACCOUNTS FROM CYBER CAFE AND SOMEONE ELSE PC

You should make sure you do not access your internet banking and even your important mail accounts

from a public computer or unsecured networks. Places like cyber cafes are a Big NO NO!! You should even make sure that you do not operate your internet banking from someone's else computer too as you never know what kind of softwares are enabled. There are programs called "Key loggers" which records your typing keys and keeps log. The same can be retrieve later. Even some viruses and Trojans might be stealing your important information on real time and you might be at risk.

12. USE MOBILE ANTIVIRUS IN CASE YOU ACCESS BANKING FROM YOUR PHONE

If you use your mobile frequently to access banking, then it's a good idea to have even mobile antivirus installed. Most of the troubles come from the least expected people and place.



13. DO NOT CHOOSE TO SAVE YOUR PASSWORDS IN BROWSER WHEN IT ASKS FOR IT

When you login to any website with username and password, browsers often asks to save the password. Always say NO!!! It is better to safeguard your passwords rather than saving few seconds.

14. IF YOU DON'T SWIPE YOUR CARDS REGULARLY, KEEP IT AT HOME

If you do not use your cards on a very regular basis or only in some pre-know situations, then it's better to carry them only as and when required. Else just keep it at home!! Though this does not apply for many people, but you can still learn from this point.

15. DO NOT PUT MUCH INFO ON SOCIAL MEDIA

There have been numerous cases of people sharing their bank account details, phone number, email id, PAN and even date of birth online on various portals online especially on consumer complaint websites. Note that you can write your entire story without your critical details too. Avoid sharing your personal details with strangers or on public forum.



16. HAVE THE CUSTOMER CARE NUMBERS IN YOUR MOBILE FOR EMERGENCY PURPOSE

You should make sure that you have your credit card company customer care number is stored in your mobile to inform them in case of any fraud transaction with your account or card. At times, we come to know about the fraud and decides to inform the customer care as soon we reach home/office. But that delay can actually turn against you.

17. AVOID CLICKING THROUGH EMAILS

No financial institution worth their salt will send you an email asking you to provide any of your login details. If you receive an email that appears to be from your bank that asks for such details then treat it with suspicion as it may well be a phishing attempt to trick you into handing your credentials over. Likewise, be aware of links in emails that appear to be from your bank – this is a trick often employed by the bad guys to get you onto a website that looks like your bank. When you log in to 'your account' they

will steal your username and password and, ultimately, your cash. It is always safer to access your online bank account by typing the address into your browser directly.

Also, be aware of unsolicited phone calls that purport to be from your bank. While your financial institution may require you to answer a security question, they should never ask for passwords or PINs (they may ask for certain letters or numbers from them, but never the whole thing).

If in doubt, do not be afraid to hang up and then call your bank back via a telephone number that you have independently confirmed as being valid.

18. AVOID ATM TRANSACTIONS VERY LATE AT NIGHT OR AT LONELY PLACES

If possible, it's better to avoid ATM transactions at lonely places or at night time especially after 10-11 pm. If you are using ATM's at remote locations, you have to be extra cautious. There are numerous cases where someone entered the ATM while someone was using it and looted them at gunpoint or because it was lonely and dark,

\ someone tried to rob someone coming out of ATM.



19. USE A SEPARATE BROWSER FOR BANKING PURPOSE

I think it's a great idea to use a separate browser itself for banking purpose. Like if you are using Chrome for your other browsing, you can keep Firefox reserved for the banking related activities. I know this might sound like it's going to extreme level of security, but then it depends on how paranoid you are about this security thing. It's a personal choice of yours. If you do this, you can choose to disable the cache at all and not save anything in browser at all by default, no plugins, no add ons.. just pure minimal level of browser.

20. SECURE YOUR COMPUTER AND KEEP IT UP-TO-DATE

Security software is essential these days, regardless of what you use your computer for. As a minimum, make sure you have a firewall turned on and are running antivirus software. This will ensure you are protected from Trojans, keyloggers and other forms of malware that could be used to gain access to your financial data.

You'll also want to keep your operating system and other software up-to-date to ensure that there are no security holes present.

21. ALWAYS LOG OUT WHEN YOU ARE DONE

It is good practice to always log out of your online banking session when you have finished your business. This will lessen the chances of falling prey to session hijacking and cross-site scripting exploits.

You may also want to set up the extra precaution of private browsing on your computer or smart phone, and set your browser to clear its cache at the end of each session.

The above tips should go a long way to ensuring that you enjoy the advantages offered by online banking without experiencing any of the pitfalls.

SAFE BANKING TO YOU ALL!

Interpersonal Relationship at Workplace

Monika Choudhary, HR & Admin



Human beings need company most when they are afraid, anxious, or unsure of themselves and want to compare their feelings with those of others. Relationships help people to confirm and validate their ideas and feelings as well as to value themselves.

Employees like common people are also social animals. They seek the company of others. An employee feels secure when there is a company of a co-employee and he feels anxious when that co-employee is absent. This desire for human contact can be thought of as a two-pronged need; the need for attachment and the need for affiliation.

These are two distinct, yet interrelated needs.

- Attachment: It is the need to form special close relationships
- Affiliation: It is the need to be with other people in general - a sense of belonging to a larger group.

CAREER TIPS

A strong association between employees working together in the same organization is called “Interpersonal Relationship”. Employees must get along well for a positive and healthy work environment at the workplace. An employee spends around eight hours at his workplace and it is practically not possible for him to work all alone. He needs co-employee to talk to and discuss various issues at the workplace. It is a common fact that the productivity increases manifold when employees work together in groups as compared to an individual employee working alone.

Interpersonal relationship at workplace is nothing but close relationship between two employees working at the same place. Interpersonal relationships require good effort from the employees to nurture and maintain. A healthy interpersonal relationship gives an employee the most joy and satisfaction.

An interpersonal relationship is an association between two or more people that may range from fleeting to enduring. This association may be based on inference, affection, solidarity, regular interactions, or some other type of social commitment. Interpersonal relationships are formed in the context of social, cultural and other influences.

The interpersonal relationship that an employee develops at his workplace is a key to his career and job success. If he gets along harmoniously with his coworkers and shares a special bond with them, then the positive interpersonal relationship that develops fuels his work achievement, happiness and success. Hence it is very essential that each and every employee must develop an effective interpersonal relationship with his co-employees at his workplace. For developing a positive and healthy interpersonal relationship the following aspects are important.

- The workplace behaviour should follow the ethics of the workplace. It should be essential that the behaviour is professional at the work. For a good interpersonal relationship employee must not misbehave with any of his colleagues. There should not be any leg pulling, criticism or backbiting. It is better to avoid a co-employee if anything is not liked in him instead fighting or arguing with him. Workplace colleagues can be friends as well but one must know where to draw the line. Too much of friendship is harmful and spoils relationship among employees.
- An employee must not interfere in his colleague's work. For this it is necessary that job responsibilities between two employees do not overlap. Overlapping of job responsibility leads to employees interfering in each other's tasks and eventually fighting over small issues. One should be concerned only with his work rather than trying to find out what the other employee is up to.
- Provision of space to the co-employee is essential for a healthy interpersonal relationship. Overhearing the conversation of the co-employee is strictly unprofessional. An employee must not open envelopes or letters not meant for him. Such practices lead to severe displeasure among employees and eventually spoil relationships.
- Rumours are the biggest enemy for a healthy and an effective interpersonal relationship. An employee must not believe in any rumours nor does he contribute to spreading of rumours at the workplace. It is always better to discuss the things with the co-employee in private rather than publicizing the thing.
- If some information is required to be shared with any of the co-employee then it is to be ensured that it is shared in its desired form. Data tampering and playing with information spoil relationships among

CAREER TIPS

colleagues and lead to confusions at the workplace.

- It is essential that any confidential information is not shared with the co- employees. One never knows when it can get misused, sometimes even unintentionally. Employee must not trust his co-employee blindly.
- There is no place for ego in interpersonal relationship and hence ego should be kept away at a distance. Personal tensions should not be brought to the work. An employee should think before he speaks. Making fun of co-employees is something which is not at all expected since it can create serious fissures in the relationships.
- For a healthy and effective interpersonal relationship, employees must stay away from the politics at workplace. It is necessary to support co-employee when he is under pressure or he is in any problem. Also his good work is to be appreciated so that he gets encouragement and gets further motivated. One must not be jealous with the co employee. Jealousy always harm in the long run. There should be healthy competition among the employees for a healthy environment at the workplace.

FACTORS AFFECTING INTERPERSONAL RELATIONSHIP

The different factors which affect interpersonal relationship are given below.

- **RAPPORT**

Rapport is good when an employee feel comfortable or at ease with the other employee. This can be automatic or it could take time to develop.

- **EMPATHY**

It refers to the ability to see the environment through the eyes of co-employee, understanding his feelings and actions. Empathy is the foundation of good two way communication.

- **COMPATIBILITY**

Two employees to have a healthy interpersonal relationship must be compatible with each other. There should be no scope of conflicts and misunderstandings in interpersonal relationship. It is easier to have a healthy interpersonal relationship between employees from similar backgrounds and similar goals. Employees with different aims, attitudes, thought processes find it difficult to adjust and hence fail to have a healthy interpersonal relationship.

- **COMMUNICATION**

Communication plays a pivotal role in a healthy and effective interpersonal relationship. Feelings must be expressed and reciprocated in relationships. Employees need to communicate with each other effectively for better understanding. Lack of communication can lead to problem and misunderstanding. Staying in touch is essential for a relationship to grow. Effective communication helps in a better bonding. Sitting with co-employees and discussing different issues face to face helps in reaching mutually acceptable solutions. The recipient must understand what the sender intends to communicate and vice a versa. Clarity of thoughts is essential in relationships.



CAREER TIPS

- **RESPECT**

It involves accepting and appreciating the co employee.

- **TRUST**

It means that an employee can depend on his co-employee. When the employee trust co-employee then he expects acceptance and support from him.

- **MENTAL EXPECTATIONS**

These are seen as relationships grow. Employees with healthy interpersonal relationship must have the same mutual expectations. The relationship must heads towards the same purpose or goals for both the employees.

- **FLEXIBILITY**

Good interpersonal relationships are flexible and can adapt to change. Circumstances change and employees cannot always carry through on plans they have made together.

- **HONESTY**

Honesty is very important for a healthy and long lasting interpersonal relationship. Dishonesty leads to distrust which affects the efficiency at the work. Transparency is important in relationships.

- **STAYING CALM**

Overreacting on any issue disrupts a healthy relationship. It is necessary to stay calm. It is better to be a little more adjusting. Saying sorry helps in the development of interpersonal relationship. It solves several issues.

- **FORGIVING**

Employees need to be a little more forgiving for having healthy interpersonal relationship. Any issues between the employees need not be drag unnecessarily. Fighting over small issues is foolish and makes the situation all the more worse.

- **SMILE**

Smile creates situation which helps solving many issues. A flash of smile can help an employee is coming out from and awkward situation. Hence during interaction with co employees smile can be a good tool for having a positive interpersonal relationship.

- **TIME**

Every relationship needs time and effort to grow. Time plays an important role in relationships. Employees need to spend adequate time to know each other better.

Employees must spend quality time with their co-employees to strengthen the bond amongst themselves. This helps in having a healthy and effective interpersonal relationship.



Interpersonal relationships are dynamic systems that change continuously during their existence. Like living organisms, relationships have a beginning, a lifespan, and an end. They grow and improve gradually, as employees get to know each other and become closer, or they gradually deteriorate as the employees drift apart.

Skip the Resolutions: But Break This Habit in 2016!

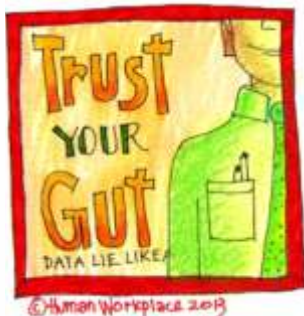


If you like New Year's resolutions, by all means choose a few of them to motivate you. I'm not a fan of New Year's resolutions, and here's why:

Nearly all of us beat up on ourselves too much as it is. When the new year rolls around, it's easy to say "This year I'm going to fix my deficiencies! I'm going to get to the gym at least three times a week. I'm going to save more money and I'm going to read more books."

I don't know which wise person wrote that our bodies are the donkeys for our minds. We treat our bodies like beasts of burden. We say "Body, work harder! Body, get to the gym! Body, keep my house looking sharp so I don't have to worry about what the neighbors think of me!"

Our bodies know a lot more than our busy minds do. Your body knows how hard you work and how much you worry. In our minds we pretend that our frenetic pace is fine, sustainable and even virtuous, but our bodies know better.



You can skip the new year's resolutions if you can gently, gradually begin to break just one habit. If you can do that, you'll help yourself much more than you would by flogging the donkey to get to the gym more often, save more money, eat better foods, work harder at the job and keep up with all the other demands you put on the poor beast.

What is the habit you will break in 2016?

THE HABIT TO BREAK IS THE HABIT OF CRITICIZING YOURSELF.

You know the habit I'm referring to. It's the one where you say things like these to yourself in your head:

- Oh, dang! I missed my exit. Now I have to drive an extra five miles to get home. I'm so stupid!
- Why is this credit card statement so confusing? What's wrong with me? I hate sucking so bad at math.
- I should never have quit my job last year. I'm such an idiot.

If you can catch yourself saying these things in your head, you can quiet the nasty little voice you hear by saying "It's fine. There's nothing wrong. That was supposed to happen."

Everything that has happened in your life brought you to this exact place to read these words. None of it was a mistake and nothing was wasted.

You can shift your perspective right now, and say "I just realized that I have no faults. I have no weaknesses.

CAREER TIPS



All I have is a trusting, open space in my heart to fill with a vision for myself.

"Once I see clearly what I want for myself, I can step toward it. All the critical chatter was just background noise to suck my mojo away and keep me off my path."

You are perfect now and you have always been that way, but a lot of influences going back to childhood have told you that there's something wrong with you. Telling people what's wrong with them is baked into our culture.

We expect to get messages about how we fail to measure up-at work, at home and everywhere we go. We tell ourselves our faults, too. We know exactly what they are.

It's a distant echo from all the people who have criticized and limited you since you were a tiny pumpkin. Those folks aren't around to keep you feeling bad about yourself anymore, so your brain has taken over the job.

You will never get closer to your goals by flogging yourself forward.

Sometimes we set New Year's resolutions from the place "You'd better listen to me!" Your critical brain is in charge at that moment.

The problem with the law-and-order approach to New Year's resolutions is that there is no one to listen to you when you're talking to yourself. You can set resolutions from a place of authority, like "Now, I'm serious! This year, I'm getting my life together!" as long as you don't expect that approach to work.

Be good to yourself in 2016. That's the most important thing you can do. The beaten donkey can't get excited about anything other than a good night's sleep, but your flame is just beginning to grow!

When you give yourself permission to imagine the life and career you want, your daily to-do list won't go away. It will still be there, but it will take a back seat to your creative process.



As you create a vision for your life and career, many details will fall out of the picture. That's okay-your vision will inspire you and call you forward much more than your critical brain ever could.

You are mightier than you can even imagine and your power will grow with every step forward you take.

You have no reason to limit your possibilities for anyone - especially an old, dusty tape playing in your head!! The tape may play, but why would you listen to that annoying voice now? You are flying at a higher altitude and you are on a mission.

YOU DON'T HAVE TIME FOR NAYSAYERS AND HATERS-EVEN THE ONES INSIDE YOUR HEAD!!!

Good Posture & Self Esteem



Childhood posture is a subject more and more parents are taking an interest. Good posture is very important. During the first four years of life there is a rapid growth and increase in postural responses, which regresses until adult postural reflexes are reached at the age of 7-10 years old. Hence, the training in posture should commence during the early pre-school years of life. This happens to be whilst spinal development is also growing at such a rapid rate. Stress on the body and spine, in terms of poor static posture, can create a lot of bad habits that can impact on the way a child grows and their long term postural state.

Postural habits can start from the newborn, depending how long they spend in the car seat and buggy seat. It creates a constricted space and static restricted position. Studies have shown that low back pain often begins in childhood, with 10% of 9-10 year olds suffering from it, with poor posture being one of the main causes.

WHAT IS GOOD POSTURE?

Posture is the position in which you hold your body and limbs when standing, sitting or lying down.

To have good posture means that you need to be aware of always holding yourself in a way that puts the least strain on your back, whatever you are doing.

Having good posture means that:

- Your bones and joints are in line so that muscles can be used properly
- Your spine has its three normal curves
- Ligaments holding the spine together are not being stressed
- You don't get tired as quickly

PARENTING

- You don't get pain in your back or other muscles
- You look good!

To have good posture, you must exercise regularly like running, walking, cycling and playing different sports will help to keep your back strong.



TO HAVE GOOD POSTURE WHEN YOU ARE STANDING, YOU NEED TO PRACTICE:

- Stand in front of the mirror
- Holding your head up and chin in, look straight ahead
- Put your shoulders back
- Tuck your tummy in
- Keep your knees straight
- Take a deep breath and relax your shoulders
- Keep your chest forward

Standing for a long time is tiring, so try to rest one foot at a time a bit higher up than the other, like on a step, or a stool.

Slumping sideways into your hip is not good posture and can strain your back muscles. Try to move about rather than standing in one position for too long.

WHEN YOU SIT:

- Try to keep your back straight
- Put your back against the backrest of the chair
- Your knees should make a right angle
- Feet flat on floor
- Don't cross your legs

WORKING ON COMPUTER:

- If you are working on a computer, then your chair should be moved to fit you
- Don't lean forward. Sit back and stretch your arms out to the keyboard.
- Bring your chair up close to the keyboard so that you can rest your arms on the chair or desk. Keep your shoulders relaxed. Sitting like this is the least stressful way for your back.
- If you are playing computer or video games, be aware that your shoulders may be hunching up as you get more excited.
- You need to rest and move around every 30 minutes to let your body relax
- Try bending back a few times to stretch your muscles and help them relax

Never lift by yourself anything that is an awkward shape or is more than a quarter of your body weight.

- Always bend your knees and straighten your legs as you lift. This way your leg muscles are doing the work not your back muscles.
- Use a trolley if you have to move something heavy
- To lift something, put your feet apart, hold the object close to your body and keep your arms bent. This way you are using your arm muscles and not pulling on shoulder and back muscles.
- Never lift anything higher than your waist
- Bend your legs and hips, tighten your tummy muscles and use your leg muscles to help you lower the object down again

So, start practicing the right posture for your kids from the beginning!!!

CATALYSTS 13th ANNIVERSARY CELEBRATION



EMPLOYEES ZONE



NAME : Sarvana Kumar
DEPARTMENT : Business Development
DATE of JOINING : November 16, 2015



NAME : Rohit Kumar Chauhan
DEPARTMENT : Business Development
DATE of JOINING : October 27, 2015



NAME : Vivek Kumar Gupta
DEPARTMENT : Customer Solutions
DATE of JOINING : November 21, 2015



NAME : Sachin Mogal
DEPARTMENT : R&D Department
DATE of JOINING : December 07, 2015



NAME : Ruchi Pal
DEPARTMENT : R&D Department
DATE of JOINING : January 11, 2016

OUR BELIEVES & COMMITMENTS

Catalysts is committed towards improving the life quality of people in the communities. We wish to be a company which is respected by people for its commitment towards social causes. We aim to achieve this through our corporate philosophy "living and working together for the common good".

We had joined hands with NGO Goonj under our CSR Activity.



TEAM MEMBER INITIATIVE

Our team member Mr C. Mohan along with his family and friends helped Chennai flood victims.

