

## **BONES CALCIUM PHOSPHATE AND PTH IN KIDNEY FAILURE**

Download PDF Ebook and Read Online Bones Calcium Phosphate And PTH In Kidney Failure . Get **Bones Calcium Phosphate And PTH In Kidney Failure** **Bones Calcium Phosphate and PTH in Kidney Failure**

Problems with calcium, phosphate and a chemical messenger in the blood called parathyroid hormone (PTH for short) can occur in anyone with kidney failure. The level of kidney function at which problems start to become apparent is about 40% of normal, or an eGFR of 40 ml/min. Sometimes there are symptoms in other words someone feels unwell.

<http://home.schoolnutritionandfitness.com/Bones--Calcium--Phosphate--and-PTH-in-Kidney-Failure--.pdf>

### **Bones Calcium Phosphate and PTH in Kidney Failure**

The high levels of calcium and phosphate caused by excess PTH can cause chalk to build up in blood vessels and heart valves The treatment in severe cases is surgery to remove the parathyroid glands . Renal Units check PTH regularly in people on dialysis, and try to plan any necessary surgery before serious complications occur.

<http://home.schoolnutritionandfitness.com/Bones--Calcium--Phosphate--and-PTH-in-Kidney-Failure--.pdf>

### **Bones Calcium Phosphate and PTH in Kidney Failure**

Bones, Calcium, Phosphate, and PTH in Kidney Failure - Treatments Diet. A reduced phosphate diet will help you control the level in your blood. No more than 1 per day. Good quality dialysis. Good quality dialysis means more effective removal of waste products from the blood. This is very

<http://home.schoolnutritionandfitness.com/Bones--Calcium--Phosphate--and-PTH-in-Kidney-Failure--.pdf>

### **Bones Calcium Phosphate and PTH in kidney failure**

Problems with calcium, phosphate and a chemical messenger in the blood called parathyroid hormone (PTH) can occur in anyone with kidney failure. The level of kidney function at which problems start is already when your kidney only functions at 40%. Dialysis normally start when you have 5% or less kidney function left.

<http://home.schoolnutritionandfitness.com/Bones--Calcium--Phosphate-and-PTH-in-kidney-failure.pdf>

### **Secondary Hyperparathyroidism National Kidney Foundation**

The release of PTH is turned on and off depending on the levels of calcium in your blood. For example, if the blood level of calcium becomes low, the parathyroid glands will release more PTH. More PTH will cause the bones to release calcium and the blood calcium level will rise.

<http://home.schoolnutritionandfitness.com/Secondary-Hyperparathyroidism-National-Kidney-Foundation.pdf>

### **Mineral Bone Disorder in Chronic Kidney Disease NIDDK**

When the kidneys are damaged, the parathyroid gland releases parathyroid hormone into the blood to pull calcium from the bones and raise blood calcium levels. This response restores the balance of phosphorus and calcium; however, it also starves the bones of much-needed calcium.

<http://home.schoolnutritionandfitness.com/Mineral-Bone-Disorder-in-Chronic-Kidney-Disease-NIDDK.pdf>

### **High Phosphorus hyperphosphatemia American Kidney Fund**

Too much phosphorus or not enough vitamin D in your blood puts you out of balance. Your body tries

to "fix" this using a hormone called parathyroid hormone (PTH). PTH pulls calcium from your bones to try and put your blood back in balance. This loss of calcium can eventually cause bone disease.

Calcium blood test

<http://home.schoolnutritionandfitness.com/High-Phosphorus--hyperphosphatemia--American-Kidney-Fund--.pdf>

### **Mineral and Bone Disorder in CKD Stage 3 and 4 kidney org**

CKD-Mineral and Bone Disorder (MBD) is the term used to describe the constellation of inter-related abnormalities of calcium, phosphorus, PTH, or vitamin D metabolism; abnormalities of bone turnover, mineralization, volume, linear growth, or strength; and vascular or other soft tissue calcification related to CKD. 1 The initial onset of

<http://home.schoolnutritionandfitness.com/Mineral-and-Bone-Disorder-in-CKD-Stage-3-and-4-kidney-org.pdf>

### **Calcium and Chronic Kidney Disease DaVita**

Chronic kidney disease (CKD) causes imbalances in bone metabolism and increases the risk of a type of bone disease called renal osteodystrophy. These imbalances also can cause calcium to deposit in the blood vessels and contribute to heart disease. To determine calcium status, your doctor will measure and evaluate calcium, phosphorus and PTH levels.

<http://home.schoolnutritionandfitness.com/Calcium-and-Chronic-Kidney-Disease-DaVita.pdf>

### **Hyperparathyroidism Symptoms and causes Mayo Clinic**

When calcium levels in your blood fall too low, your parathyroid glands secrete enough PTH to restore the balance. PTH raises calcium levels by releasing calcium from your bones and increasing the amount of calcium absorbed from your small intestine. When blood-calcium levels are too high, the parathyroid glands produce less PTH.

<http://home.schoolnutritionandfitness.com/Hyperparathyroidism-Symptoms-and-causes-Mayo-Clinic.pdf>

### **Ca PO4 PTH The Renal Association**

Calcium, phosphate and bones Disturbances of calcium and phosphate metabolism arise in moderate to severe CKD (i.e. usually CKD stages G4 and G5). The umbrella term for these abnormalities is CKD-Mineral Bone Disorder (CKD-MBD). CKD-MBD should be thought of as a systemic disorder which is strongly linked to cardiovascular disease and mortality.

<http://home.schoolnutritionandfitness.com/Ca-PO4-PTH-The-Renal-Association.pdf>

### **Mineral and Bone Disorder National Kidney Foundation**

When kidneys fail there is a short supply of active vitamin D. This causes calcium and phosphorus to get out of balance. When the blood phosphorus level goes up and blood vitamin D level goes down, your body makes too much parathyroid hormone (PTH). High PTH levels cause calcium to move from your bones into your blood.

<http://home.schoolnutritionandfitness.com/Mineral-and-Bone-Disorder-National-Kidney-Foundation.pdf>

### **Hyperparathyroidism in chronic kidney disease**

FGF-23 is a phosphaturic hormone that down-regulates the activation of vitamin D in the kidney. This hormone is elevated long before changes are seen in calcium, phosphate or PTH, 24 but because of its instability in plasma samples, it is not easy to measure. 25

<http://home.schoolnutritionandfitness.com/Hyperparathyroidism-in-chronic-kidney-disease--.pdf>

### **Treatment of Pediatric Chronic Kidney Disease Mineral and**

Post-parathyroidectomy, serum calcium and phosphate must be monitored very closely, as hungry bone syndrome, a condition characterized by acutely increased skeletal calcium and phosphate uptake, may cause marked hypocalcemia and/or hypophosphatemia. Treatment consists of large

doses of active vitamin D and calcium.

<http://home.schoolnutritionandfitness.com/Treatment-of-Pediatric-Chronic-Kidney-Disease-Mineral-and-.pdf>

### **Chronic Kidney Disease Metabolic and Bone Disorder**

The Calcium, Phosphate, VitD and PTH axis Renal Osteodystrophy Metabolic Bone Investigation (PTH) and Management Growth data & PTH levels FGF23 Practical guidelines . CKD-Metabolic and Bone disorder KDIGO Kidney Disease: improving global outcomes 2006 Definition . Loss of cortical outline with subperiosteal

<http://home.schoolnutritionandfitness.com/Chronic-Kidney-Disease--Metabolic-and-Bone-Disorder.pdf>

### **Management of renal bone disease**

renal bone disease occurs in patients with chronic kidney disease. There are changes in the concentrations of calcium, phosphate, vitamin d and parathyroid hormone. Systemic complications include renal osteodystrophy and soft tissue calcification, which contribute to morbidity and mortality.

<http://home.schoolnutritionandfitness.com/Management-of-renal-bone-disease.pdf>

### **Personalized Management of Bone and Mineral Disorders and**

The kidneys are critical for the regulation of serum calcium and phosphorus concentrations. Altered mineral metabolism occurs early in chronic kidney disease and includes progressive increases in fibroblast growth factor-23 (FGF23), decreasing calcitriol levels, increasing parathyroid hormone (PTH) levels, and an increase in phosphorus levels.

<http://home.schoolnutritionandfitness.com/Personalized-Management-of-Bone-and-Mineral-Disorders-and-.pdf>

### **Calcium and Chronic Kidney Disease Idaho Nephrology**

Kidney disease causes imbalances in bone metabolism and increases the risk of a type of bone disease called renal osteodystrophy. In addition, these imbalances can cause calcium to deposit in the blood vessels and contribute to heart disease. To determine calcium status, your doctor will measure and evaluate calcium, phosphorus and PTH levels.

<http://home.schoolnutritionandfitness.com/Calcium-and-Chronic-Kidney-Disease-Idaho-Nephrology--.pdf>

### **Renal Osteodystrophy Bone Disease and Kidney Failure**

Renal osteodystrophy is a common problem for people with chronic kidney disease or kidney failure who are on dialysis. When kidneys are diseased, the levels of calcium, phosphorus, parathyroid hormone and vitamin D in the body get off balance and affect bone health.

<http://home.schoolnutritionandfitness.com/Renal-Osteodystrophy-Bone-Disease-and-Kidney-Failure--.pdf>

### **Renal osteodystrophy Wikipedia**

Renal osteodystrophy is usually diagnosed after treatment for end-stage kidney disease begins; however the CKD-MBD starts early in the course of CKD. In advanced stages, blood tests will indicate decreased calcium and calcitriol (vitamin D) and increased phosphate, and parathyroid hormone levels.

<http://home.schoolnutritionandfitness.com/Renal-osteodystrophy-Wikipedia.pdf>

### **NKF KDOQI Guidelines**

Therefore, measurements of serum levels of phosphorus, calcium, and PTH should be made when GFR falls below 60 mL/min/1.73 m<sup>2</sup> and these parameters should be monitored thereafter in patients with CKD . Most patients with kidney failure or those on maintenance dialysis have some form of osteodystrophy of CKD.

<http://home.schoolnutritionandfitness.com/NKF-KDOQI-Guidelines.pdf>

### **Respiratory Failure A Rare Complication of Chronic Kidney**

Mid-stage CKD with secondary hyperparathyroidism and osteitis fibrosa typically causes low serum calcium with phosphate retention, while advanced CKD with tertiary hyperparathyroidism can cause high calcium and normalization of phosphate. Adynamic bone disease appears similar, but PTH is relatively suppressed.

<http://home.schoolnutritionandfitness.com/Respiratory-Failure--A-Rare-Complication-of-Chronic-Kidney--.pdf>

### **Aluminum toxicity to bone A multisystem effect**

1. Introduction. Aluminum (Al) toxicity to bone has been the subject of several reviews, though none recent. The majority of the work was performed in the 1970s through the 1990s and involved either Al contamination of fluid used in hemodialysis or peritoneal dialysis secondary to chronic renal disease or Al contamination of fluids used for the intravenous nutrition of patients with intestinal

<http://home.schoolnutritionandfitness.com/Aluminum-toxicity-to-bone--A-multisystem-effect--.pdf>

### **Secondary Hyperparathyroidism and Chronic Kidney Disease**

In Brief Secondary hyperparathyroidism (SHPT) describes a complex alteration in bone and mineral metabolism that occurs as a direct result of chronic kidney disease (CKD). Bone disease, a well-recognized complication of SHPT, represents only a small concern in light of the evidence that correlates SHPT with cardiovascular disease and an increased risk of morbidity and mortality in patients

<http://home.schoolnutritionandfitness.com/Secondary-Hyperparathyroidism-and-Chronic-Kidney-Disease--.pdf>

### **Frontiers Mineral and Bone Disorders After Kidney**

The risk of mineral and bone disorders among patients with chronic kidney disease is substantially elevated, owing largely to alterations in calcium, phosphorus, vitamin D, parathyroid hormone, and fibroblast growth factor 23. The interwoven relationship among these minerals and hormones results in maladaptive responses that are differentially affected by the process of kidney transplantation.

<http://home.schoolnutritionandfitness.com/Frontiers-Mineral-and-Bone-Disorders-After-Kidney--.pdf>

### **Hyperparathyroidism Wikipedia**

Secondary hyperparathyroidism is due to physiological (i.e. appropriate) secretion of parathyroid hormone (PTH) by the parathyroid glands in response to hypocalcemia (low blood calcium levels). The most common causes are vitamin D deficiency (caused by lack of sunlight, diet or malabsorption) and chronic kidney failure.

<http://home.schoolnutritionandfitness.com/Hyperparathyroidism-Wikipedia.pdf>

### **Parathyroid Hormone Measurement in Chronic Kidney Disease**

Chronic kidney disease-mineral and bone disorder (CKD-MBD), characterized by deranged metabolism of calcium, phosphate, parathyroid hormone (PTH), fibroblast growth factor 23 (FGF23), and vitamin D; bone abnormalities, formerly known as renal osteodystrophy ; and vascular calcification, is a well-established complication of CKD .

<http://home.schoolnutritionandfitness.com/Parathyroid-Hormone-Measurement-in-Chronic-Kidney-Disease--.pdf>

### **A balanced view of calcium and phosphate homeostasis in**

The association of abnormalities of calcium and phosphate homeostasis with adverse clinical outcomes in chronic kidney disease (CKD) has generated interest in developing therapeutic strategies to target mineral metabolism early in the course of CKD. Hill et al. present results from a classic balance study of CKD stage 3-4 patients that challenge existing paradigms and suggest a need to

<http://home.schoolnutritionandfitness.com/A-balanced-view-of-calcium-and-phosphate-homeostasis-in>

--.pdf

### **Racial ethnic differences in chronic kidney disease**

Additionally, it is critical to remember that for African-American adults on dialysis, low bone turnover is seen on histology at substantially higher PTH levels than that of Caucasian dialysis patients, and that African-Americans meeting prior KDOQI-defined goals for calcium-phosphate product and PTH have demonstrated a high prevalence of adynamic bone disease [11, 25]. Thus, these differences in PTH do not simply suggest the need for treatment with higher doses of active vitamin D amongst

<http://home.schoolnutritionandfitness.com/Racial-ethnic-differences-in-chronic-kidney-disease--.pdf>

### **Overview of chronic kidney disease mineral and bone**

Abnormalities of calcium, phosphorus, parathyroid hormone (PTH), fibroblast growth factor 23 D'Haese PC, Spasovski GB, Sikole A, et al. A multicenter study on the effects of lanthanum carbonate (Fosrenol) and calcium carbonate on renal bone disease in dialysis patients. *Kidney Int Suppl* 2003; :S73.

<http://home.schoolnutritionandfitness.com/Overview-of-chronic-kidney-disease-mineral-and-bone--.pdf>

### **The Balance of Calcium Phosphorus Livestrong com**

About 85 percent of the body's phosphorus and 99 percent of calcium are found in the bones. People with impaired kidney function are at greater risk for bone disease because they are more likely to have high phosphorus and PTH levels, which can lead to progressive bone loss.

<http://home.schoolnutritionandfitness.com/The-Balance-of-Calcium-Phosphorus-Livestrong-com.pdf>

### **Calciophylaxis A Lesser Known Complication Of CKD**

Normal kidney function supports strong bone health with the activation of vitamin D to help regulate balance of the body's calcium, phosphorus, and parathyroid hormone (PTH). With chronic kidney disease, these levels can become imbalanced leading to bone and mineral disorders such as calciophylaxis.

<http://home.schoolnutritionandfitness.com/Calciophylaxis--A-Lesser-Known-Complication-Of-CKD--.pdf>

### **Bone and Mineral Guidelines for Patients with Chronic**

Recent clinical studies of mineral metabolism in patients with chronic kidney disease have helped to verify and extend the Kidney Disease Outcomes Quality Initiative practice guidelines for bone metabolism and disease that were published in 2003. In particular, investigations that examined calcium loading, vitamin D therapy, and mortality risk associated with serum calcium and phosphate in

<http://home.schoolnutritionandfitness.com/Bone-and-Mineral-Guidelines-for-Patients-with-Chronic--.pdf>

### **Renal Osteodystrophy Get the Facts on Symptoms**

Controlling PTH levels prevents calcium from being withdrawn from the bones. Usually, overactive parathyroid glands are controllable with a change in diet, dialysis treatment, or medication. The drug cinacalcet hydrochloride (Sensipar), approved by the Food and Drug Administration in 2004, lowers PTH levels by imitating calcium.

<http://home.schoolnutritionandfitness.com/Renal-Osteodystrophy--Get-the-Facts-on-Symptoms.pdf>

### **Management of secondary hyperparathyroidism in adult**

Chronic kidney disease mineral and bone disorder (CKD-MBD) is characterized by biochemical abnormalities (calcium, phosphate, parathyroid hormone [PTH], and vitamin D); abnormalities in bone turnover, mineralization, volume linear growth, or strength; and by extraskeletal calcification.

<http://home.schoolnutritionandfitness.com/Management-of-secondary-hyperparathyroidism-in-adult--.pdf>

### **NKF KDOQI Guidelines**

1.1 Serum levels of calcium, phosphorus, and intact plasma parathyroid hormone (PTH) should be

measured in all patients with CKD and GFR <60 mL/min/1.73 m<sup>2</sup>. (EVIDENCE) The frequency of these measurements should be based on the stage of chronic kidney disease ( Table 14 ).

<http://home.schoolnutritionandfitness.com/NKF-KDOQI-Guidelines.pdf>

### **New Guidelines on Bone Disease in Chronic Kidney Disease**

New York, NY (October 1, 2003) - Patients with chronic kidney disease (CKD) should have their calcium, phosphate and intact parathyroid hormone (PTH) measured regularly in order to monitor bone metabolism and disease in CKD, according to new clinical practice guidelines from the National Kidney Foundation. The 16 guidelines, published as a supplement to the October 2003 issue of the American

<http://home.schoolnutritionandfitness.com/New-Guidelines-on-Bone-Disease-in-Chronic-Kidney-Disease--.pdf>

### **Parathyroid Hormone and Secondary Hyperparathyroidism in**

with CKD stage 5D, either serum parathyroid hormone (PTH) or bone-specific alkaline phosphatase can be used to evaluate bone disease because markedly high or low values predict underlying bone turnover.<sup>4</sup> The biochemical abnormalities of CKD-MBD may begin in CKD stage 3, but the rate and severity of these changes are highly variable among patients.

<http://home.schoolnutritionandfitness.com/Parathyroid-Hormone-and-Secondary-Hyperparathyroidism-in--.pdf>

### **135312 AMGEN Understanding Preventing Renal Bone Disease**

Renal Bone Disease Understanding Bones Bone is a dynamic tissue, which constantly undergoes growth and remodelling. Healthy individuals have a complex system of metabolic checks and balances. The main factors controlling these processes are parathyroid hormone (PTH), calcitriol (active vitamin D) and also serum calcium and phosphorus levels.

<http://home.schoolnutritionandfitness.com/135312-AMGEN-Understanding-Preventing-Renal-Bone-Disease.pdf>

### **Vitamin D Calcium Phosphate Questions and Study Guide**

Low calcium levels stimulates PTH secretion. Usually associated with kidney disease - can't make vitamin D, can't increase calcium absorption in gut or kidney, only place calcium can come from is the bone. Parathyroid gland enlarges and produces unregulated amounts of PTH. Treated with management of calcium levels, calcimimetics or surgery.

<http://home.schoolnutritionandfitness.com/Vitamin-D--Calcium-Phosphate-Questions-and-Study-Guide--.pdf>

### **Vitamin D in dialysis**

The CARl Guidelines Caring for Australasians with Renal Impairment Bone Disease, Calcium, Phosphate and Parathyroid Hormone (April 2006) Page 3 Despite the limited literature in PD, there is sufficient to make some recommendations. These have obvious similarities to those guidelines proposed for

<http://home.schoolnutritionandfitness.com/Vitamin-D-in-dialysis.pdf>

### **Phosphate and the parathyroid Kidney International**

The phosphate (Pi) retention in patients with chronic kidney disease leads to secondary hyperparathyroidism (2HPT). 2HPT is the physiological response of the parathyroid not only to Pi retention but also to decreased synthesis of 1,25(OH)<sub>2</sub> vitamin D, and the attendant hypocalcemia. 2HPT is characterized by increased PTH synthesis, secretion, and parathyroid cell proliferation.

<http://home.schoolnutritionandfitness.com/Phosphate-and-the-parathyroid-Kidney-International.pdf>

### **BONE MARKERS IN CHRONIC KIDNEY DISEASES**

failure is no longer apt for a disease which has seen much medical success. disturbances in calcium,

phosphate, vitamin D, and parathyroid hormone (PTH) homeostasis that play an important role in the pathophysiology of renal bone disease. Bone is likely to be more severely affected by CKD than might be

<http://home.schoolnutritionandfitness.com/BONE-MARKERS-IN-CHRONIC-KIDNEY-DISEASES.pdf>

### **Evaluation of bone densitometry by dual energy x ray**

1. Introduction. Patients with stages 3 to 5 of chronic kidney disease (CKD) have a twofold fracture risk and higher morbidity and mortality compared to the healthy population (Bucur et al., 2014; Goldenstein et al., 2015). The mechanisms thought to increase this fracture risk involve secondary hyperparathyroidism due to reduced phosphaturia and vitamin D deficiency secondary to poor calcitriol

<http://home.schoolnutritionandfitness.com/Evaluation-of-bone-densitometry-by-dual-energy-x-ray--.pdf>

### **Extended Hours Dialysis Reduced Serum Phosphate Levels in**

Chronic kidney disease-mineral and bone disorder (CKD-MBD) is associated with changes in phosphate, calcium, and parathyroid hormone (PTH) in patients on hemodialysis. Researchers conducted an analysis of data from the ACTIVE Dialysis study that compared conventional dialysis ( 18 h/week) with extended hours dialysis ( 24 h/week).

<http://home.schoolnutritionandfitness.com/Extended-Hours-Dialysis-Reduced-Serum-Phosphate-Levels-in-.pdf>

### **Calcium metabolism Wikipedia**

Hypocalcemia (low blood calcium) and hypercalcemia (high blood calcium) are both serious medical disorders. Osteoporosis, osteomalacia and rickets are bone disorders linked to calcium metabolism disorders and effects of vitamin D. Renal osteodystrophy is a consequence of chronic kidney failure related to the calcium metabolism.. A diet adequately rich in calcium may reduce calcium loss from

<http://home.schoolnutritionandfitness.com/Calcium-metabolism-Wikipedia.pdf>

### **Calcium and Bone Oncohematoma Key**

Calcium metabolism is regulated primarily by vitamin D, parathyroid hormone (PTH) and calcitonin and serum concentrations are influenced by: intestinal calcium absorption; calcium deposition in bone and mobilization of calcium following bone resorption; renal tubular calcium reabsorption. Approximately 85% of body phosphate is contained within

<http://home.schoolnutritionandfitness.com/Calcium-and-Bone-Oncohematoma-Key.pdf>

### **Regulation of Calcium and Phosphate Flashcards Quizlet**

Start studying Regulation of Calcium and Phosphate. Learn vocabulary, terms, and more with flashcards, games, and other study tools. Search. (kidney) of calcium serve in. Vitamin D (calcitriol), PTH (parathyroid hormone), FGF23 (fibroblast growth factor 23), calcitonin (minor role) 4 hormones involved in regulation of Ca. GI tract.

<http://home.schoolnutritionandfitness.com/Regulation-of-Calcium-and-Phosphate-Flashcards-Quizlet.pdf>

<http://home.schoolnutritionandfitness.com/bhu-old-question-paper.pdf>  
<http://home.schoolnutritionandfitness.com/pdf-medical-textbooks.pdf>  
<http://home.schoolnutritionandfitness.com/walk-two-moons-worksheet-pdf.pdf>  
<http://home.schoolnutritionandfitness.com/download-immunology-books.pdf>  
<http://home.schoolnutritionandfitness.com/art-of-watching-films-8th-edition.pdf>  
<http://home.schoolnutritionandfitness.com/life-safety-code-for-assisted-living.pdf>  
<http://home.schoolnutritionandfitness.com/jérôme-vignon.pdf>  
<http://home.schoolnutritionandfitness.com/pdf-of-understanding-abnormal-behavior-by-d-sue-10th-ed.pdf>  
<http://home.schoolnutritionandfitness.com/to-kill-a-mockingbird-literary-skills.pdf>  
<http://home.schoolnutritionandfitness.com/sirach-pdf.pdf>  
<http://home.schoolnutritionandfitness.com/beginning-algebra-book.pdf>  
<http://home.schoolnutritionandfitness.com/essentials-of-economics-6th-edition.pdf>  
<http://home.schoolnutritionandfitness.com/free-jackie-collins-ebooks.pdf>  
<http://home.schoolnutritionandfitness.com/full-count-four-decades-of-blue-jays-baseball-by-jeff-blair.pdf>  
<http://home.schoolnutritionandfitness.com/making-literature-matter-5th-edition-online.pdf>  
<http://home.schoolnutritionandfitness.com/lusie-from-lion-the-wich-in-the-wardrobe.pdf>  
<http://home.schoolnutritionandfitness.com/how-effective-is-ratio-analysis-in-decision-making.pdf>  
<http://home.schoolnutritionandfitness.com/concise-inorganic-chemistry.pdf>  
<http://home.schoolnutritionandfitness.com/molecular-biology-textbooks.pdf>  
<http://home.schoolnutritionandfitness.com/chill-factor-pdf-sandra-brown.pdf>