

## **The Ayurvedic Management of Hypothyroidism**

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### **Introduction**

This paper discusses the treatment of hypothyroidism and its associated diseases. Modern western treatment is discussed followed by Ayurvedic treatment. A review of current research into ayurvedic herbal and lifestyle treatments is provided, and comparisons to classical ayurvedic texts are drawn.

### **Western viewpoint of Hypothyroidism and Incidence**

#### **About the thyroid from a western perspective**

The thyroid gland is a butterfly shaped gland about two inches in size positioned in the throat region.<sup>1</sup> Iodide taken in through foods is converted into iodine, which is used to make the thyroid hormones Triiodothyronine (T3) and Thyroxine (T4).<sup>2</sup> The pituitary releases Thyroid Stimulating Hormone (TSH) which governs this chemical process.<sup>3</sup> An increase in TSH production translates into an increase of T3 and T4 production, and additional conversion of T3 to T4 occurs in the liver.<sup>4</sup> There are epithelial cells called thyrocytes within the gland that secrete thyroid hormones T3 and T4 as well as the hormone calcitonin.<sup>5</sup> These hormones help regulate the body's metabolism and calcium levels, respectively.<sup>6</sup> Thyroid hormones also stimulate bodily tissues to protein production and increase oxygen usage in cells.<sup>7</sup> Disease results when thyroid hormone levels are irregular—a deficiency leading to hypothyroidism.<sup>8</sup> Hyperthyroidism is the result of excess hormone levels, but in many cases this ultimately leads to hypothyroidism as well.<sup>9</sup>

Hypothyroidism is far more ubiquitous than hyperthyroidism. It is often the result of low intake of iodide or a lack of response to that nutrient by the body.<sup>10</sup> Some foods actually block the body's ability to uptake iodine and are called goitrogens.<sup>11</sup> This includes a number of vegetables from the brassica family, including broccoli, cabbage, and brussel sprouts, as well as soy, peanuts, and canola oil.<sup>12</sup> Cooking seems to lessen this goitrogen effect.<sup>13</sup>

The Merck manual defines hypothyroidism as the “underactivity of the thyroid gland that leads to inadequate production of thyroid hormones and a slowing of vital body functions.”<sup>14</sup> Once a diagnosis is made, most people will take thyroid hormones for the

remainder of their lives.<sup>15</sup> It is quite a common disease and can affect a person at any age,<sup>16</sup> affecting more than 5 million Americans.<sup>17</sup> Depending on the source, a mild thyroid issue affects 4%- 17% of women and 2%-7% of men.<sup>18</sup> It affects 10% of women and 6% of men over the age of 65.<sup>19</sup> Myxedema is the term for the severe version of hypothyroidism.<sup>20</sup>

### **Causes of Hypothyroidism**

Hypothyroidism can be primary or secondary in cause.<sup>21</sup> The most common cause of primary hypothyroidism in North America is Hashimoto's thyroiditis and "is associated with a firm goiter," and later "a shrunken fibrotic thyroid with little or no function."<sup>22</sup> The gland is always enlarged in thyroiditis.<sup>23</sup> In the case of Hashimoto's thyroiditis (also known as Hashimoto thyroiditis and autoimmune thyroiditis), the gland is gradually destroyed due to an autoimmune reaction resulting in hypothyroidism.<sup>24</sup> Hashimoto's thyroiditis commonly runs in families<sup>25</sup> and is eight times more common in women.<sup>26</sup> Treatment of hyperthyroidism (overactive thyroid gland), goiter, and thyroid cancer using radioactive iodine to suppress thyroid function is the second leading cause of hypothyroidism as this treatment prevents the body from making adequate thyroid hormones.<sup>27</sup> Surgical removal of the thyroid also causes this disease.<sup>28</sup> Other causes can include thyroid inflammation (which can cause temporary hypothyroidism), and may be caused by an infection.<sup>29</sup> It is not common in the United States of America, but chronic deficiency of iodine can cause goitrous hypothyroidism.<sup>30</sup> Congenital hypothyroidism may result from deficient iodine, which creates retardation (formerly known as cretinism).<sup>31</sup> Because iodine is added to table salt and is used to clean cow udders in milk production (thus it is found in dairy products), Americans usually get plenty of iodine.<sup>32</sup> In fact, there is evidence that too much iodine can cause as much trouble for the thyroid as too little.<sup>33</sup> Lack of iodine in the diet is a common cause in developing countries, however,<sup>34</sup> as 80% of the body's supply is stored in the thyroid gland.<sup>35</sup>

Various drugs such as lithium and radiation therapies can create the disease as well.<sup>36</sup> There are rare inherited disorders that create deficient thyroid hormone leading to hypothyroidism because the enzymes in the cells of gland are abnormal.<sup>37</sup> There are other causes of decreased T4 including euthyroid sick syndrome and serum thyroxine-binding globulin (TBG) deficiency.<sup>38</sup>

Far less common, secondary hypothyroidism is caused by the failure of the pituitary gland to secrete enough TSH or the hypothalamus' failure to make enough thyrotropin-releasing hormone (TRH).<sup>39</sup>

The Merck manual defines subclinical hypothyroidism as "elevated TSH in patients with absent or minimal symptoms of hypothyroidism and normal serum levels of free T4."<sup>40</sup> Subclinical hypothyroidism is a common condition and is likely to progress towards hypothyroidism, affecting more than 15% of older women and 10% of older men.<sup>41</sup> This condition may also be treated with l-thyroxine in patients with a TSH between 4.5 and 10mU/L.<sup>42</sup>

### **Symptoms**

Much of the functioning of the body will be slowed by this disease.<sup>43</sup> Weight gain is very common, along with fatigue/lethargy, intolerance to cold temperatures and high cholesterol.<sup>44 45</sup> Hair loss is also common and the hair may become coarse and dry.<sup>46</sup> Additionally, "Skin becomes coarse, dry, scaly and thick."<sup>47</sup> Other symptoms include dull facial expressions, hoarse voice and slow speech, drooping eyelids, and puffiness in the face and eyes.<sup>48</sup> Slower pulse, eyebrow hair loss, menorrhagia, secondary amenorrhea, macroglossia (large tongue), paresthesia of hands and feet/carpal tunnel syndrome, and other symptoms of several organ systems are also possible.<sup>49</sup> Hashimoto's thyroiditis presents with "painless enlargement of the thyroid or fullness in the throat."<sup>50</sup> Heart disease and atherosclerosis is associated with hypothyroidism as high LDL often occurs in these people.<sup>51</sup>

In the elderly, symptoms may differ significantly from the norm and confusion and forgetfulness is common- which is easily mistaken for other diseases such as dementia.<sup>52</sup> The elderly also have far fewer symptoms than younger people with this disease and their complaints are nonspecific and subtle.<sup>53</sup>

Left untreated, anemia may develop. In serious situations of untreated hypothyroidism, a low body temperature, psychosis, and even heart failure may also occur.<sup>54 55</sup> A likely to be life threatening condition called myxedema coma can occur in patients with longstanding hypothyroidism where "breathing slows, seizures occur, and blood flow to the brain decreases."<sup>56 57</sup> This reaction may occur due to physical stress, infection, trauma, injury, surgery, and sedatives that lower brain function.<sup>58 59</sup>

Different symptoms can occur in secondary hypothyroidism including skin depigmentation, hypoglycemia, and atrophic breasts.<sup>60</sup>

### **Diagnosis**

Diagnosis is usually based on one test, that of the Thyroid Stimulating Hormone (TSH).<sup>61</sup> If the results of the TSH test are normal, it is inferred that the thyroid is functioning normally.<sup>62</sup> If the thyroid is underfunctioning, this number will be high.<sup>63</sup> According to the Merck manual, in hypothyroidism, "Serum TSH is always elevated, whereas serum free T4 is low. In secondary hypothyroidism, free t4 and serum TSH are low (sometimes TSH is normal but with decreased bioactivity."<sup>64</sup> <sup>65</sup> Hashimoto's thyroiditis is often diagnosed with additional tests of T3, T4, thyroid peroxidase antibodies, and more rarely antithyroglobulin antibodies.<sup>66</sup> <sup>67</sup> Approximately 95% of Hashimoto's thyroiditis patients have thyroid antibodies against several thyroid proteins.<sup>68</sup> Women suffer from Hashimoto's disease at a ratio of 50 to 1 in the 30-50 year old age group, the typical common age range for onset.<sup>69</sup> In Hashimoto's thyroiditis, Initially T4 and TSH levels are within average range, but then T4 wanes and TSH climbs, which is when hypothyroidism sets in. <sup>70</sup> In the rare case the hypothyroidism is caused secondarily by the pituitary not secreting enough TSH, a thyroxine (thyroid hormone T4) test will be necessary.<sup>71</sup>

Dr. Halpern indicates that Low T3 and T4 with high TSH indicate a problem in the thyroid, while low T3 and T4 with low TSH means the issue is arising from the pituitary or the hypothalamus. <sup>72</sup> Euthyroid sick syndrome can be mistaken for hypothyroidism as there is a problem with the conversion of T3 to T4 in the liver and can create low levels of T3.<sup>73</sup> (H5)

### **Western Treatment**

Typically western doctors give thyroid hormone replacement drugs. <sup>74</sup> Synthetic T4 is given with oral administration. <sup>75</sup> Desiccated thyroid from animals is also used but not preferred because hormone levels in the pills can vary.<sup>76</sup> Synthetic T3 and T4 may be administered intravenously in emergencies.<sup>77</sup> Serious sides effects of these drugs are possible.<sup>78</sup> Dosage is increased gradually until TSH blood levels normalize.<sup>79</sup> Western medicine does not offer any specific treatment for Hashimoto's thyroiditis but replaces thyroid hormone once hypothyroidism results.<sup>80</sup> Iodine treatment should actually be avoided in the case of Hashimoto's, even from natural sources such as kelp.<sup>81</sup>

## **Ayurvedic viewpoint of Hypothyroidism**

### ***Nidana (Etiology)***

*Avatu* means thyroid gland in Sanskrit.<sup>82</sup> *Ojas* is our innate vitality and immunity- like our energy reserves. A prolonged *vata* and *pitta* imbalance depletes *ojas* and causes *vata* to push *kapha* out of balance.<sup>83</sup> A stressful, mobile lifestyle in which a person travels a lot, for example, will bring about this condition.<sup>84</sup> There is an excess of the gunas hot, light, and dry in the diet.<sup>85</sup>

### ***Rupa (Symptoms)***

The western symptoms of hypothyroidism align with this modern ayurvedic perspective. Slow speech, slow pulse, low appetite, lethargy, thick skin, menorrhagia, large tongue (macroglossia), goiter, and puffiness in the face and eyes represent a *kapha* vitiation. On the contrary, fatigue, constipation, muscle cramps, amenorrhea, weakness, dry/coarse/scaly skin, sparse/coarse/dry hair, and hoarseness of the voice is classically associated with *vata* vitiation. Weight gain, joint stiffness, and an inability to tolerate the cold can be *vata*, *kapha*, or a combination of the two. When weight loss and/or weakness occur, especially in older people, this is usually indicative of a *vata* imbalance but may also be from *pitta* vitiation.

Inherited disorders of enzyme abnormality would seem to correlate with an issue with the *agni* or perhaps *pitta* in the thyroid gland.

### ***Samprapti (Pathology)***

*Kapha* is predominant once hypothyroidism has set in. Because of prior *vata* and *pitta* vitiation, *ojas* is depleted/low.<sup>86</sup> With *vata*'s influence, *kapha* "accumulates in the *annavaha srota* and overflows into the *rasa* and *rakta dhatus* and relocates into the thyroid gland. The thyroid gland is part of the *rasavasa srota* as it is mainly a hypervascular epithelial tissue."<sup>87</sup> The subdosha affected is *avalambaka*.<sup>88</sup> *Kapha* may also relocate to other *srotas* and tissues.<sup>89</sup> Pranvic flow through the throat chakra *vishuddha* is blocked.<sup>90</sup>

### **Chikitsa (Ayurvedic Treatment)**

According to Marc Halpern, “The management of hypothyroidism is the management of vata and kapha. It is kapha that is responsible for most of the symptoms that are present....However, most patients who experience this condition are also experiencing low ojas secondary to prior vitiation of vata and pitta.”<sup>91</sup> A typical kapha reducing program, which increases the gunas of hot and mobile and demands actions like vigorous working out, will further reduce *ojas* in this case.<sup>92</sup> In any case, the body is not making enough energy to withstand that kind of activity.<sup>93</sup> Perhaps this is why hypothyroidism is considered incurable by western standards. Treatment indeed seems paradoxical.

### **Ojas Building Lifestyle**

Guarding ojas and then rebuilding it is essential to the treatment of this disease.<sup>94</sup> *Ojas* is described as our reserve energy and our immunity to disease. It is often compared to a bank account—if it gets depleted more than it gets refilled, the person’s health will be poor. A lack of sleep, excess work, worry, and busy lifestyle (an extremely common occurrence in the western world) indicates that more of this reserve energy is being used than saved. Saving energy comes in the form of rest and rejuvenation. The Caraka Samhita in the authority on what *ojas* is:

It maintains the living beings by [its] saturation;  
Without ojas no life of creatures exists,  
It is the initial essence of embryo and also the essence of the embryo’s nourishing  
material,  
It enters into the cardiac cycle first,  
If it is destroyed, it leads to destruction of that person,  
It is the sustainer  
It is located in the heart,  
It is the cream of the nutrient fluid in the body,  
It is where vital factors are established,  
It is the fruit of them [vital factors] or they produce various types of fruits  
(effects).<sup>95</sup>

Caraka also outlines what diminishes ojas: “excessive exercise, fasting, anxiety, rough, little and measured diet, wind and the sun, fear, grief, un-unctuous drinks, vigil, excessive discharge of mucus, blood, semen and other excreta, time-factor (in old age and receiving seasons) and injury by organisms.”<sup>96</sup> Caraka goes on to say that when it is destroyed, death occurs.<sup>97</sup> What may be a surprise to many meditation and yoga practitioners is that *ojas* also decreases with intensive spiritual practice, including excess difficult asana (yoga postures), meditation, breathing, and chanting exercises.<sup>98</sup> If too much lethargy is a problem, these practices should be discontinued until there is enough energy.<sup>99</sup> *Ojas* building practices include physical and mental rest, eating fresh, local, organic foods, spending time in nature, contemplative practices such as gentle yoga and non-intense meditation, and internal and external oleation (oil therapies.)

### **Diet**

Basic ayurvedic theory suggests that a proper diet and lifestyle ensures proper digestion, the end result of which is *ojas*. *Ojas* is what is left over when digestion of food is done and the body has done a great job. Sweet foods build ojas, but not unless they are digested properly. *Ojas* is preserved when sweets foods are eaten with spicy foods.<sup>100</sup> Spiciness and therefore proper digestion of any food can be created with *dipanas*, which is Sanskrit for digestive spices like cinnamon, fennel, ginger, turmeric, and cardamom. A mono diet of *kitcheree* (classic mung bean and rice porridge) with *pachanas* (toxic buildup reducing spices/herbs like cumin and ginger) and *lekhanas* (thermogenic herbs like ginger and black pepper) help with weight loss.<sup>101</sup> Decreasing the intake of raw cruciferous vegetables, particularly radishes, and other goitrogenic foods is also advised.<sup>102</sup> Adding onions, garlic, and ginger, as well as teas of sage, thyme and strawberry leaf may also be useful.<sup>103</sup>

### **Herbs**

Regulating agni (digestive power) with *dipanas* (digestive herbs) to increase metabolism is essential, followed with clearing *ama* (*toxic buildup in the body*) with herbs known as *pachanas*.<sup>104</sup> *Lekhanas* (thermogenic herbs) may be used to reduce excess weight, including *chitrak* and *Guggulu*.<sup>105</sup> All of these herbs, helpful as they may be, are heating and thus may aggravate *pitta* and deplete *ojas*; adjusting the dosages of these herbs according to the volume of food intake will prevent this loss of reserve energy.<sup>106</sup> Lower dosages or

cooler *rasayanas* (*ojas* building herbs) like *guduchi* and licorice may be used if *pitta* is vitiated.<sup>107</sup> Secondary symptoms may require other categories of herbs: laxatives can be used for constipation, for example.<sup>108</sup> Another main category of herbs used in the treatment of hypothyroidism are thyroid stimulants, some of which contain iodine and others that work by unknown means.<sup>109</sup>

Bladderwrack (*Fucus vesiculosus*) and kelp contain iodine and are used in the treatment of hypothyroidism according to Halpern.<sup>110</sup> Another well-known practitioner makes a different and compelling argument, however. K.P. Khalsa acknowledges that a lack of iodine can cause hypothyroidism, especially outside of more developed countries.<sup>111</sup> However, Khalsa writes that it seems to be the case that both iodine deficiency *and* excess iodine can cause this disease, as giving iodine to patients with thyroid antibodies without autoimmune symptoms can bring on symptoms of autoimmune thyroiditis.<sup>112</sup> Importantly, he notes that the United States and Japan have the highest rates of Hashimoto's thyroiditis, as well as the highest rates of iodine intake.<sup>113</sup> His viewpoint is validated by the current scientific research: "A great deal of circumstantial evidence has linked iodine with the rising incidence of autoimmune thyroiditis in the United States."<sup>114</sup> In this study, an increase of iodine intake by mice through water was directly linked to the development of autoimmune thyroiditis (Hashimoto's).<sup>115</sup> "We suggest, therefore, that the presence of iodine increases the autoantigenic potency of thyroglobulin, a major pathogenic antigen in the induction of autoimmune thyroiditis."<sup>116</sup>

Instead of iodine, Khalsa suggests immune enhancing herbs as well as adaptogens, glandular tonics, and endocrine tonics.<sup>117</sup> He indicates that contrary to popular belief, autoimmune patients do not have an overzealous immune system that is functioning normally otherwise, as these patients are prone to infections like colds and take longer to recover.<sup>118</sup> He therefore recommends anti-inflammatory herbs for thyroiditis, as inflammation is often the response of the body to antigens like a cold virus or thyroid antibody.<sup>119</sup> Immune-enhancing, anti-inflammatory herbs he recommends include Astragalus root (from Traditional Chinese Medicine) and *Guduchi*, an ayurvedic herb.<sup>120</sup>

Because hypothyroidism is slow to respond to herbal remedies, Khalsa recommends that symptoms be treated in the short term, but that complete healing takes place over at least a year with adaptogenic herbs.<sup>121</sup> His top three adaptogens include Saw Palmetto (*Serenoa repens*), He Shou Wu (*Polygonum multiflorum*), and Eleuthero root (*Eleutherococcus senticosus*, a TCM herb).<sup>122</sup> While Eleuthero is a general glandular

balancer, he shou wu has been shown by modern research to reduce cholesterol levels and atherosclerosis, two common conditions for people with hypothyroidism.<sup>123</sup> Traditionally in TCM, he shou wu has been used to treat vata and pitta symptoms such as premature hair loss/graying hair, weakness, infection, infertility, and more.<sup>124</sup> Other notable herbs are prickly ash bark (*Xanthoxylum americanum*) for circulatory stimulation and thyroid function, Black cohosh root (*Cimicifuga racemosa*) for endocrine strengthening, Gotu Kola leaf (*Centella asiatica*) for general thyroid support, Willow Bark (*Salix alba*), Ashwagandha (*withania somniferum*) for the glandular system and thyroid, Guggul gum (*Commiphora mukul*) for adjusting thyroid and cholesterol levels, as well as vitamins A, B, and the amino acid tyrosine.<sup>125</sup> With the patient already on western medicine, this can buy time for the long term herbal treatment.<sup>126</sup> From his clinical experience of many decades, he says to “expect a very satisfactory long-term recovery with consistent compliance.”<sup>127</sup>

*Kachnar* (*Bauhinia tormentosa*) is another herb used in both enlargement of the thyroid as well as hypothyroidism.<sup>128</sup> It is typically mixed with another herb well known for the thyroid, Guggulu (*Commiphora mukul*), in the form of *Kachnar guggulu*.<sup>129</sup> Guggulu is also a fat burning herb due to its light, dry, and sharp nature.<sup>130</sup> As a *dipana*, *pachana*, and *lekhana*, it alleviates both vata and kapha and regulates the agni.<sup>131</sup> It also appears to alleviate several indicators of heart disease, common amongst hypothyroid patients, including high cholesterol and high blood pressure.<sup>132</sup> While no research studies were available on *Kachnar*, Guggulu was shown to reverse hypothyroidism in female mice<sup>133</sup> and stimulate the thyroid.<sup>134</sup> Other research data suggests that Guggulu corrects function and structure of the thyroid significantly after melatonin induced hypothyroidism and “directly stimulates thyroid function probably through some enzymatic mechanisms.”<sup>135</sup> Yet another study demonstrates guggulu’s effect on the thyroid hormones and T3 production in the liver.

“While no marked change in the concentrations of serum thyroxine (T4) was observed, triiodothyronine (T3) concentration and T3/T4 ratio were enhanced following the administration of guggulu extract (0.2 g/kg b. wt./d for 15 days). A concomitant decrease in LPO was also noticed in liver, the principal site of T3 generation, suggesting that guggulu induced increase in T3 concentration is LPO mediated.”<sup>136</sup>

A separate study indicates that Guggul does have an effect on T4; according to Singh, Prasad, and Tripathi, T3, iodine uptake, and free T4 levels are significantly increased by this herb.<sup>137</sup> Guggulu not only has effects on the thyroid, but other diseases that commonly occur alongside it, such as hypercholesterolemia and atherosclerosis.<sup>138</sup>

The famous Ayurvedic herb Brahmi (*Bacopa monnieri*) was found to stimulate thyroid functioning, increasing T4 by 41%.<sup>139</sup> Brahmi is well known herb for memory loss, a symptom of hypothyroidism.

Modern research shows us that extracts of ayurvedic *rasayana* ashwagandha (*Withania sonifera*) along with *Bauhinia Purpurea* “are capable of stimulating thyroid function in female mice.”<sup>140</sup> *Bauhinia Purpurea* enhanced both T3 and T4 hormones, but Ashwagandha only increased T4.<sup>141</sup> Ashwagandha alone was found to stimulate thyroid function increasing serum T3 and T4.<sup>142</sup> Another study done on patients with bipolar found that Ashwagandha (ASW) root unexpectedly healed subclinical hypothyroidism.<sup>143</sup> They write, “One ASW- treated patient had subclinical hypothyroidism (TSH - 5.7 mIU/L) at baseline that normalized, and all three ASW treated patients experienced T4 increases from baseline (7%, 12%, and 24%).”<sup>144</sup>

It is of great interest that Ashwagandha treats hypothyroidism. As it is an adaptogen, *rasayana* (builder of *ojas*), and excellent for all three doshas, especially vata and kapha, it validates Halpern’s treatment theory for this disease. It also suggests that stress may play a central role in this disease. Classically, it is considered a nervine sedative and tonic for vata dosha and is the type of herbal treatment one would give for anxiety and vata type of depression. This indicates that perhaps anxiety, which is extremely commonplace in the United States, is a main driver of this disease. In fact, scientific research shows that anxiety and depression occurs very commonly alongside hypothyroidism.<sup>145</sup> Though people with a history of anxiety and depression before hypothyroidism diagnosis were excluded from the study, the research showed that “mood and anxiety disorders have higher prevalence in patients with thyroid dysfunction... In cases of acute hypothyroidism, anxiety disorders occur in about 30–40% of patients. Patients with subclinical hypothyroidism (SCH) can present with anxiety...”<sup>146</sup> The incidence in anxiety in hypothyroid patients is stunningly high:

“Females constituted 70% of the sample. A total of 60% reported some degree of depression based on HDRS [Hamilton depression rating scale] (males – 56.63% and females – 64.29%) whereas about 63% out of the total patients screened showed

some degree of anxiety (males –56.66% and females – 65.72%) based on HAM-A [Hamilton anxiety rating scale]. The most common depressive symptom among the males was depressed mood (73.33%) and among females was gastrointestinal somatic symptoms (68.54%). The most common anxiety symptom among the males was depressed mood (70.0%) and among females was anxious mood (92.85%)...<sup>147</sup>

There are numerous studies outlining the link between depressive mood disorders, including depression and anxiety, and hypothyroidism. One very interesting study indicates that depression and anxiety are prodromal symptoms to many diseases.<sup>148</sup> In other words, anxiety and/or depression appears *before* the onset of a medical disease. “Depression was found to be the most common affective prodrome of medical disorders and was consistently reported in... hypothyroidism.”<sup>149</sup> This validates the Ayurvedic view that the majority of diseases begin in the mind. The article goes on to say that “In case reports, depression was found to be a prodrome of a subsequent medical disorder such as the following: hypothyroidism, hyperthyroidism hypoparathyroidism, hyperparathyroidism.”<sup>150</sup> In addition, mania, a classically vata condition, was also a prodromal symptom of hypothyroidism.<sup>151</sup>

Authentic yoga styles such as Kripalu yoga have the capability of improving generalized anxiety disorders, so it seems likely yoga would be of benefit in hypothyroidism as well.<sup>152</sup> According to a meta-analysis of the effect of Hatha yoga on anxiety, “Hatha yoga is a promising method for treating anxiety.”<sup>153</sup>

### ***Galaganda (Goiter)***

In the Ayurvedic texts, an enlargement of the thyroid gland was mentioned in the Sushruta Samhita and in Sanskrit was called *galaganda*.<sup>154</sup> Sushruta characterizes galganda as being caused by vata (vataja), kapha (kaphaja) or medas, fat tissue (medaja).<sup>155</sup> The first two are genuine goiters and the latter a cyst or tumor.<sup>156</sup> As a symptom of thyroid disease, a goiter is generally associated with hyperthyroidism but can also occur with hypothyroidism.<sup>157</sup> In the latter, goiters occur with excess TSH production.<sup>158</sup> Because a goiter involves swelling and surplus mass, it was classified as a *kapha* imbalance.<sup>159</sup> The classic texts also mention secondary symptoms such as a *kapha* type (non-pitting) form of edema (shotha) in the ankles.<sup>160</sup> “The deranged and aggravated Vayu in combination with the deranged and augmented kapham... gradually gives rise to a swelling about that part of

the neck characterized by the specific symptoms of the deranged doshas (Vayu and Kapham)..."<sup>161</sup> Please note that *vayu* translates as air and is another name for vata. The Madhavana Nidanam indicates that this condition is instigated by both *vata* and *kapha* in the throat giving rise to a fatty growth.<sup>162</sup> Classical texts recommend *galganda* to be treated with a medicated paste of Ashwagandha, bibhitaki, and/or radish.<sup>163</sup> Sushruta says it can be incurable after one year or with a specific set of symptoms.<sup>164</sup>

### **Conclusion**

Ayurveda attempts to heal the root imbalance of hypothyroidism rather than treat symptoms for the remainder of a patient's life. The research indicates that if a patient is willing to reduce their stress through lifestyle changes and take key therapeutic herbs, healing from this chronic disease seems possible. To appease vata and pitta, making necessary lifestyle changes must include slowing down in a society that is fast paced and demanding. This would reduce anxiety and depression, which may be prodromal symptoms of hypothyroidism, and would pacify *vata* and *pitta* in the body. Changing our lifestyle from multitasking and getting things done will certainly prove difficult in this modern era, but it is clear from the research that for those who are dedicated enough to do what it takes to get results will find success.

## Notes

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- <sup>1</sup> Dr. Marc Halpern, Clinical Ayurvedic Medicine Sixth Edition (2012), 7-3.
  - <sup>2</sup> Ibid., 7-3.
  - <sup>3</sup> Ibid., 7-3.
  - <sup>4</sup> Ibid., 7-3 – 7-4.
  - <sup>5</sup> Ibid., 7-3.
  - <sup>6</sup> Ibid., 7-3.
  - <sup>7</sup> Ibid., 7-3.
  - <sup>8</sup> Ibid., 7-4.
  - <sup>9</sup> Ibid., 7-4.
  - <sup>10</sup> Ibid., 7-4.
  - <sup>11</sup> Ibid., 7-4.
  - <sup>12</sup> Ibid., 7-4.
  - <sup>13</sup> Ibid., 7-4.
  - <sup>14</sup> Merck Manual: <https://www.merckmanuals.com/home/hormonal-and-metabolic-disorders/thyroid-gland-disorders/hypothyroidism>
  - <sup>15</sup> Ibid.
  - <sup>16</sup> Ibid.
  - <sup>17</sup> Karta Purkh Singh Khalsa, C.D.-N., A.H.G. "Hashimoto's Disease and Hypothyroidism," InternationalIntegrative.com.
  - <sup>18</sup> Ibid.
  - <sup>19</sup> Merck Manual: <https://www.merckmanuals.com/professional/endocrine-and-metabolic-disorders/thyroid-disorders/hashimoto-thyroiditis>
  - <sup>20</sup> Merck Manual: <https://www.merckmanuals.com/home/hormonal-and-metabolic-disorders/thyroid-gland-disorders/hypothyroidism>
  - <sup>21</sup> Merck Manual: <https://www.merckmanuals.com/home/hormonal-and-metabolic-disorders/thyroid-gland-disorders/hypothyroidism>
  - <sup>22</sup> Merck Manual:  
<https://www.merckmanuals.com/professional/SearchResults?query=hypothyroidism>
  - <sup>23</sup> Karta Purkh Singh Khalsa, C.D.-N., A.H.G. "Hashimoto's Disease and Hypothyroidism," InternationalIntegrative.com.

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- <sup>24</sup> Merck Manual: <https://www.merckmanuals.com/home/hormonal-and-metabolic-disorders/thyroid-gland-disorders/hashimoto-thyroiditis>
- <sup>25</sup> Ibid.
- <sup>26</sup> Dr. Marc Halpern, *Clinical Ayurvedic Medicine Sixth Edition* (2012), 7-7.
- <sup>27</sup> Merck Manual: <https://www.merckmanuals.com/home/hormonal-and-metabolic-disorders/thyroid-gland-disorders/hypothyroidism>
- <sup>28</sup> Ibid.
- <sup>29</sup> Ibid.
- <sup>30</sup> Merck Manual:  
<https://www.merckmanuals.com/professional/SearchResults?query=hypothyroidism>
- <sup>31</sup> Ibid.
- <sup>32</sup> Merck Manual: <https://www.merckmanuals.com/home/hormonal-and-metabolic-disorders/thyroid-gland-disorders/hypothyroidism>
- <sup>33</sup> Noel R. Rose, Linda Rasooly, Ali M. Saboori, and C. Lynne Burek “Linking iodine with autoimmune thyroiditis,” *Environ Health Perspect* 107 (Oct Suppl 5) (1999): 749-752.
- <sup>34</sup> Merck Manual: <https://www.merckmanuals.com/home/hormonal-and-metabolic-disorders/thyroid-gland-disorders/hypothyroidism>
- <sup>35</sup> Karta Purkh Singh Khalsa, C.D.-N., A.H.G. “Hashimoto’s Disease and Hypothyroidism,” [InternationalIntegrative.com](http://InternationalIntegrative.com).
- <sup>36</sup> Merck Manual:  
<https://www.merckmanuals.com/professional/SearchResults?query=hypothyroidism>
- <sup>37</sup> Merck Manual: <https://www.merckmanuals.com/home/hormonal-and-metabolic-disorders/thyroid-gland-disorders/hypothyroidism>
- <sup>38</sup> Merck Manual:  
<https://www.merckmanuals.com/professional/SearchResults?query=hypothyroidism>
- <sup>39</sup> Ibid.
- <sup>40</sup> Ibid.
- <sup>41</sup> Ibid.
- <sup>42</sup> Ibid.
- <sup>43</sup> Merck Manual: <https://www.merckmanuals.com/home/hormonal-and-metabolic-disorders/thyroid-gland-disorders/hypothyroidism>
- <sup>44</sup> Ibid.

---

<sup>45</sup> Merck Manual:

<https://www.merckmanuals.com/professional/SearchResults?query=hypothyroidism>

<sup>46</sup> Merck Manual: <https://www.merckmanuals.com/home/hormonal-and-metabolic-disorders/thyroid-gland-disorders/hypothyroidism>

<sup>47</sup> Ibid.

<sup>48</sup> Ibid.

<sup>49</sup> Merck Manual:

<https://www.merckmanuals.com/professional/SearchResults?query=hypothyroidism>

<sup>50</sup> Merck Manual: <https://www.merckmanuals.com/professional/endocrine-and-metabolic-disorders/thyroid-disorders/hashimoto-thyroiditis>

<sup>51</sup> Karta Purkh Singh Khalsa, C.D.-N., A.H.G. "Hashimoto's Disease and Hypothyroidism," InternationalIntegrative.com.

<sup>52</sup> Merck Manual:

<https://www.merckmanuals.com/professional/SearchResults?query=hypothyroidism>

<sup>53</sup> Merck Manual: <https://www.merckmanuals.com/professional/endocrine-and-metabolic-disorders/thyroid-disorders/hashimoto-thyroiditis>

<sup>54</sup> Merck Manual: <https://www.merckmanuals.com/home/hormonal-and-metabolic-disorders/thyroid-gland-disorders/hypothyroidism>

<sup>55</sup> Merck Manual:

<https://www.merckmanuals.com/professional/SearchResults?query=hypothyroidism>

<sup>56</sup> Merck Manual: <https://www.merckmanuals.com/home/hormonal-and-metabolic-disorders/thyroid-gland-disorders/hypothyroidism>

<sup>57</sup> Merck Manual:

<https://www.merckmanuals.com/professional/SearchResults?query=hypothyroidism>

<sup>58</sup> Merck Manual: <https://www.merckmanuals.com/home/hormonal-and-metabolic-disorders/thyroid-gland-disorders/hypothyroidism>

<sup>59</sup>Merck Manual:

<https://www.merckmanuals.com/professional/SearchResults?query=hypothyroidism>

<sup>60</sup> Merck Manual:

<https://www.merckmanuals.com/professional/SearchResults?query=hypothyroidism>

- 
- <sup>61</sup> Merck Manual: <https://www.merckmanuals.com/home/hormonal-and-metabolic-disorders/thyroid-gland-disorders/hypothyroidism>
- <sup>62</sup> Dr. Marc Halpern, Clinical Ayurvedic Medicine Sixth Edition (2012), 7-4.
- <sup>63</sup> Merck Manual: <https://www.merckmanuals.com/home/hormonal-and-metabolic-disorders/thyroid-gland-disorders/hypothyroidism>
- <sup>64</sup> Merck Manual:  
<https://www.merckmanuals.com/professional/SearchResults?query=hypothyroidism>
- <sup>65</sup> Merck Manual: <https://www.merckmanuals.com/professional/endocrine-and-metabolic-disorders/thyroid-disorders/hashimoto-thyroiditis>
- <sup>66</sup> Merck Manual: <https://www.merckmanuals.com/home/hormonal-and-metabolic-disorders/thyroid-gland-disorders/hashimoto-thyroiditis>
- <sup>67</sup> Merck Manual: <https://www.merckmanuals.com/professional/endocrine-and-metabolic-disorders/thyroid-disorders/hashimoto-thyroiditis>
- <sup>68</sup> Ibid.
- <sup>69</sup> Ibid.
- <sup>70</sup> Merck Manual: <https://www.merckmanuals.com/professional/endocrine-and-metabolic-disorders/thyroid-disorders/hashimoto-thyroiditis>
- <sup>71</sup> Merck Manual: <https://www.merckmanuals.com/home/hormonal-and-metabolic-disorders/thyroid-gland-disorders/hypothyroidism>
- <sup>72</sup> Dr. Marc Halpern, Clinical Ayurvedic Medicine Sixth Edition, 7-4.
- <sup>73</sup> Ibid., 7-6.
- <sup>74</sup> Merck Manual: <https://www.merckmanuals.com/home/hormonal-and-metabolic-disorders/thyroid-gland-disorders/hypothyroidism>
- <sup>75</sup> Ibid.
- <sup>76</sup> Ibid.
- <sup>77</sup> Ibid.
- <sup>78</sup> Ibid.
- <sup>79</sup> Ibid.
- <sup>80</sup> Merck Manual: <https://www.merckmanuals.com/home/hormonal-and-metabolic-disorders/thyroid-gland-disorders/hashimoto-thyroiditis>
- <sup>81</sup> Ibid.
- <sup>82</sup> Dr. Marc Halpern, Clinical Ayurvedic Medicine Sixth Edition, 7-3.
- <sup>83</sup> Dr. Marc Halpern, Clinical Ayurvedic Medicine Sixth Edition, 7-10.

- 
- 84 Ibid., 7-10.
- 85 Ibid., 7-10.
- 86 Dr. Marc Halpern, *Clinical Ayurvedic Medicine Sixth Edition*, 7-10.
- 87 Ibid., 7-11.
- 88 Ibid., 7-11.
- 89 Ibid., 7-11.
- 90 Ibid., 7-11.
- 91 Ibid., 7-11.
- 92 Ibid., 7-11.
- 93 Ibid., 7-11.
- 94 Ibid., 7-11.
- 95 Gabriel Van Loon, ed., *Charaka Samhita Handbook on Ayurveda Volume 1* (P.V. Sharma and Chaukhambha Orientalia Publishers 2003), 59.
- 96 Ibid., 59.
- 97 Ibid., 59.
- 98 Dr. Marc Halpern, *Clinical Ayurvedic Medicine Sixth Edition*, 7-11.
- 99 Ibid., 7-11.
- 100 Ibid., 7-11.
- 101 Ibid., 7-11.
- 102 Ibid., 7-11.
- 103 Karta Purkh Singh Khalsa, C.D.-N., A.H.G. "Hashimoto's Disease and Hypothyroidism," [InternationalIntegrative.com](http://InternationalIntegrative.com).
- 104 Dr. Marc Halpern, *Clinical Ayurvedic Medicine Sixth Edition*, 7-11.
- 105 Ibid., 7-11.
- 106 Ibid., 7-11.
- 107 Ibid., 7-11.
- 108 Ibid., 7-11.
- 109 Ibid., 7-12.
- 110 Ibid., 7-12.
- 111 Karta Purkh Singh Khalsa, C.D.-N., A.H.G. "Hashimoto's Disease and Hypothyroidism," [InternationalIntegrative.com](http://InternationalIntegrative.com).
- 112 Ibid.
- 113 Ibid.

- 
- <sup>114</sup> Noel R. Rose, Linda Rasooly, Ali M. Saboori, and C. Lynne Burek "Linking iodine with autoimmune thyroiditis," 749-752.
- <sup>115</sup> Ibid., 749.
- <sup>116</sup> Ibid., 749.
- <sup>117</sup> Karta Purkh Singh Khalsa, C.D.-N., A.H.G. "Hashimoto's Disease and Hypothyroidism," InternationalIntegrative.com.
- <sup>118</sup> Ibid.
- <sup>119</sup> Ibid.
- <sup>120</sup> Ibid.
- <sup>121</sup> Ibid.
- <sup>122</sup> Ibid.
- <sup>123</sup> Ibid.
- <sup>124</sup> Ibid.
- <sup>125</sup> Ibid.
- <sup>126</sup> Ibid.
- <sup>127</sup> Ibid.
- <sup>128</sup> Dr. Marc Halpern, Clinical Ayurvedic Medicine Sixth Edition, 7-12.
- <sup>129</sup> Ibid., 7-12.
- <sup>130</sup> Ibid., 7-12.
- <sup>131</sup> Ibid., 7-12.
- <sup>132</sup> Ibid., 7-12.
- <sup>133</sup> Panda, Sunanda, and Anand Kar. "Guggulu (Commiphora mukul) potentially ameliorates hypothyroidism in female mice." *Phytotherapy Research* 19.1 (2005): 78-80.
- <sup>134</sup> Tripathi, Yamini B., O. P. Malhotra, and S. N. Tripathi. "Thyroid stimulating action of Z-guggulsterone obtained from Commiphora mukul." *Planta medica* 50.01 (1984): 78-80.
- <sup>135</sup> Tripathi, AK Singh SN, and GC Prasad. "Response of Comimiphora Mukul (Guggulu) on melatonin induced hypothyroidism." *Ancient Science of Life* Oct; 3(2) (1983): 85-90.
- <sup>136</sup> Panda, Sunanda, and Anand Kar. "Gugulu (Commiphora mukul) induces triiodothyronine production: possible involvement of lipid peroxidation." *Life sciences* 65.12 (1999): PL137-PL141.
- <sup>137</sup> Singh, A. K., G. C. Prasad, and S. N. Tripathi. "In vitro studies on thyrogenic effect of commiphora mukul (guggulu)." *Ancient science of life* 2.1 (1982): 23.
- <sup>138</sup> Ibid., 23.

- 
- <sup>139</sup> Kar, A., S. Panda, and S. Bharti. "Relative efficacy of three medicinal plant extracts in the alteration of thyroid hormone concentrations in male mice." *Journal of ethnopharmacology* 81.2 (2002): 281-285.
- <sup>140</sup> Panda, S., and A. Kar. "Withania somnifera and Bauhinia purpurea in the regulation of circulating thyroid hormone concentrations in female mice." *Journal of Ethnopharmacology* 67.2 (1999): 233-239.
- <sup>141</sup> *Ibid.*, 233.
- <sup>142</sup> Panda, Sunanda, and Anand Kar. "Changes in thyroid hormone concentrations after administration of ashwagandha root extract to adult male mice." *Journal of Pharmacy and Pharmacology* 50.9 (1998): 1065-1068.
- <sup>143</sup> Gannon, Jessica M., Paige E. Forrest, and KN Roy Chengappa. "Subtle changes in thyroid indices during a placebo-controlled study of an extract of Withania somnifera in persons with bipolar disorder." *Journal of Ayurveda and integrative medicine* 5.4 (2014): 241.
- <sup>144</sup> *Ibid.*, 241.
- <sup>145</sup> Bathla, Manish, Manpreet Singh, and Pankaj Relan. "Prevalence of Anxiety and Depressive Symptoms among Patients with Hypothyroidism." *Indian Journal of Endocrinology and Metabolism* 20.4 (2016): 468-474.
- <sup>146</sup> *Ibid.*, 468.
- <sup>147</sup> *Ibid.*, 468.
- <sup>148</sup> Cosci F, Fava G, A, Sonino N, "Mood and Anxiety Disorders as Early Manifestations of Medical Illness: A Systematic Review," *Psychotherapy and Psychosomatics* 84 (2015) 22-29
- <sup>149</sup> *Ibid.*, 22-29.
- <sup>150</sup> *Ibid.*, 22- 29.
- <sup>151</sup> *Ibid.*, 22-29.
- <sup>152</sup> Jessica R. Morgan, Marlysa Sullivan, Akihiko Masuda, Erin Tully, Lindsey L. Cohen, and Page L. Anderson (2016) "A Case Series on the Effects of Kripalu Yoga for Generalized Anxiety Disorder," *International Journal of Yoga Therapy* Vol. 26, No. 1 (2016): 9-19.
- <sup>153</sup> Hofmann, S. G., Andreoli, G., Carpenter, J. K. and Curtiss, J. , "Effect of Hatha yoga on anxiety: a meta-analysis." *Journal of Evidence-Based Medicine*, 9 (2016): 116-124

---

<sup>154</sup> Kaviraj Kunja Lal Bishagratna M.R.A.S., ed., *The Sushruta Samhita Volume II* (Calcutta: 1911 ) 77-78.

<sup>155</sup> *Ibid.*, 77-78.

<sup>156</sup> Dr. Marc Halpern, *Clinical Ayurvedic Medicine Sixth Edition*, 7-5.

<sup>157</sup> *Ibid.*, 7-5.

<sup>158</sup> *Ibid.*, 7-5.

<sup>159</sup> *Ibid.*, 7-5.

<sup>160</sup> *Ibid.*, 7-5.

<sup>161</sup> Kaviraj Kunja Lal Bishagratna M.R.A.S., ed., *The Sushruta Samhita Volume II*, 77.

<sup>162</sup> Dr. Marc Halpern, *Clinical Ayurvedic Medicine Sixth Edition*, 7-5.

<sup>163</sup> *Ibid.*, 7-9.

<sup>164</sup> Kaviraj Kunja Lal Bishagratna M.R.A.S., ed., *The Sushruta Samhita Volume II*, 78.