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KRIYAKALA: A CLASSICAL FRAMEWORK FOR UNDERSTANDING DISEASE PROGRESSION

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ABSTRACT

Ayurveda regards disease as the end point of a graded process of Dosha vitiation and not as a sudden event. *Kriyakala* (*Shatkriyakala*), described most systematically by Acharya Sushruta, divides this process into six recognisable stages: Sanchaya, Prakopa, Prasara, Sthanasamshraya, Vyakti and Bheda. Each stage offers a distinct therapeutic opportunity. **Aim:** To compile the classical descriptions of Kriyakala and to discuss their clinical relevance to early diagnosis, prevention and treatment planning. **Materials and Methods:** A conceptual, literary review was carried out. Primary sources were the Sushruta Samhita, Ashtanga Hridaya and Charaka Samhita with their classical commentaries. Secondary sources were peer-reviewed and indexed articles located through PubMed, DHARA and Google Scholar. Descriptions were compared across texts and arranged stage by stage. **Results:** The classics describe six stages, each with characteristic symptoms and a matching line of management. Sanchaya, Prakopa and Prasara are largely preventable and reversible. Sthanasamshraya marks the onset of the prodrome (*purvarupa*). Vyakti and Bheda are stages of established and complicated disease. The framework is linked to *ritucharya*, as Doshas accumulate in one season and aggravate in the next. **Conclusion:** Kriyakala is a preventive, stage-based model of *Samprapti* that is broadly comparable to the natural history of disease in modern medicine. Its greatest value is in lifestyle disorders, where functional change precedes diagnosable disease. Objective, validated criteria for the early stages are needed.

KEYWORDS: Kriyakala, Shatkriyakala, Samprapti, Dosha, Sushruta Samhita, Preventive medicine.

1. INTRODUCTION

Ayurveda describes health as a state of Dosha, Agni, Dhatu and Mala in balance, together with a contented state of the senses, mind and self. Disease, by contrast, is understood to arise through a sequence of changes and not instantaneously. The process by which the Doshas, once vitiated, interact with susceptible tissues (*Dushya*) to produce a disease is called *Samprapti*, and Kriyakala is the classical scheme for reading that process in time.[1,2]

The word is a compound of *kriya* (action, intervention or treatment) and *kala* (time or stage). Kriyakala therefore means the appropriate time for therapeutic action, and the six stages are collectively called *Shatkriyakala*. Acharya Sushruta discusses the concept in Sutrasthana, chapter 21 (*Vranaprashnadhyaya*), and declares that the physician who knows the stages of Dosha accumulation, aggravation, spread, localisation, manifestation and differentiation is a true *bhishak*. Acharya Vagbhata gives a parallel account of the early stages in Ashtanga Hridaya Sutrasthana, chapter 12, and Acharya Charaka discusses Dosha accumulation, aggravation and pacification in relation to the seasons.[3]

The idea has a clear counterpart in modern medicine, where the natural history of disease passes through a stage of susceptibility, a pre-symptomatic stage, a clinical stage and a stage of complication or disability, and where prevention is graded as primordial, primary, secondary and tertiary. It has been argued that Kriyakala is comparable to this natural history.[4] The relevance is greater today because most of the present disease burden consists of chronic, lifestyle-related conditions that develop silently over years, which is exactly the situation the six stages were designed to describe.

Several reviews have discussed Shatkriyakala in general terms or in relation to a single disease group, such as cancer.[5,6] What remains useful for the clinician and the student is a consolidated, stage-wise account that links each stage to its features, its management and its modern parallel. This article attempts that.

AIM

To review the concept of Kriyakala and its application in understanding disease progression.

OBJECTIVES

- To compile the classical descriptions of the six stages of Kriyakala.
- To describe the relationship of Kriyakala with *ritucharya* and Samprapti.
- To discuss the clinical relevance of the concept and its modern correlates.

2. MATERIALS AND METHODS

2.1 Study design

This is a conceptual, literary review based on classical Ayurvedic texts and contemporary published articles.

2.2 Sources

- **Primary sources:** Sushruta Samhita with the Nibandhasangraha commentary of Dalhana (Sutrasthana 21); Ashtanga Hridaya with the Sarvangasundara commentary of Arunadatta (Sutrasthana 12); and Charaka Samhita with the Ayurveda Deepika commentary of Chakrapanidatta (Sutrasthana 17).
- **Secondary sources:** Articles in indexed and peer-reviewed journals were searched in PubMed, DHARA (Digital Helpline for Ayurveda Research Articles) and Google Scholar using the terms "Kriyakala", "Shatkriyakala",

"Samprapti" and "stages of disease Ayurveda".

2.3 Inclusion and exclusion criteria

Classical texts and articles that described or discussed the stages of Kriyakala, or applied them to a disease or to preventive care, were included. Articles that mentioned the term only in passing, and articles without accessible full text, were excluded.

2.4 Analysis

Descriptions of each stage were extracted from the primary sources and compared across texts. They were then arranged by stage under the headings of Dosha status, features, and line of management, and clinical correlations were drawn from the secondary literature.

3. OBSERVATIONS AND RESULTS

3.1 The six stages

The classics describe the disease process as a chain of six stages. Sushruta's own summary of the sequence is given in Sutrasthana 21. The stages are summarised in Table 1.

Table 1: The six stages of Kriyakala.

Stage	Dosha status	Features	Therapeutic approach
1. Sanchaya (accumulation)	Dosha increases in its own site (*swasthana*)	Mild, site-specific signs; dislike of the factors that caused the increase and desire for opposing qualities	*Nidana parivarjana*; diet and lifestyle of opposite quality (*viparita guna*)
2. Prakopa (aggravation)	Accumulated Dosha becomes aggravated and unstable	More marked, dosha-specific symptoms	*Shamana* measures; correction of diet and regimen; *shodhana* where indicated
3. Prasara (spread)	Aggravated Dosha overflows its site and circulates through the body	Symptoms of Dosha spreading, in the site of origin or elsewhere	Dosha-directed *shodhana* or *shamana* according to strength of patient and Dosha
4. Sthanasamshraya (localisation)	Dosha lodges in a site of *khavaigunya* (defective channel or tissue) and combines with Dushya	*Purvarupa* (prodromal features) of the coming disease	Treatment of both Dosha and Dushya; anticipatory management
5. Vyakti (manifestation)	Disease is established	Full characteristic signs and symptoms (*rupa*)	*Vyadhi-pratyanika chikitsa* and *Doshapratyanika chikitsa*, i.e. treatment of the specific disease
6. Bheda (differentiation)	Disease becomes chronic, complicated or takes a specific form	Complications (*upadrava*), chronicity, specific types (e.g. stages of *vranashotha*)	Difficult; complication-specific care, sometimes surgical (*shastra karma*); prognosis assessed

3.2 Stage-wise description

Sanchaya:- In this stage a Dosha increases in its own seat, for example Vata in the pakvashaya, Pitta in the amashaya-pittashaya region and Kapha in the urah. The classical features are dosha-specific and mild. They include fullness and stiffness of the abdomen (*stabdha-purna-koshthata*) for Vata, yellowish discolouration and mild heat (*pitavabhasata, mandoshmata*) for Pitta, and heaviness and lassitude (*angagaurava, alasya*) for Kapha. The characteristic behavioural sign is that the person dislikes the very factors that increased the Dosha and inclines toward opposing ones. Sushruta noted that accumulated Dosha may subside by itself without progressing if it is not provoked further.

Prakopa:- If the causes continue, the accumulated Dosha becomes aggravated. The symptoms are now more distinct: for example, abdominal pain and movement of wind in the abdomen for Vata, sourness, thirst and burning for Pitta, and aversion to food and nausea for Kapha. Dalhana's commentary explains that aggravation is also of two kinds, arising from previously accumulated Dosha (*chayapurvaka*) or arising directly without prior accumulation (*achayapurvaka*).

Prasara:- The aggravated Dosha exceeds its seat and spreads. The classics compare this to fermenting liquid that overflows its container, and Dalhana describes several patterns of spread according to the Dosha or Doshas involved. Features include gurgling and distension for Vata, burning, sour eructation and a smoky sensation for Pitta, and aversion to food, poor digestion, heaviness and vomiting for Kapha.

Sthanasamshraya:- The spreading Dosha lodges at a site where the tissue or channel is already weak (*khavaigunya*) because of heredity, injury, diet, occupation or previous illness, and there it combines with the Dushya. The Samprapti is essentially complete at this point. The signs are those of *purvarupa*, which are the vague and non-specific forerunners of the disease. This stage is decisive for the site and type of disease that follows. Two individuals with the same vitiated Dosha will develop different diseases according to where the Dosha localises.

Vyakti:- The disease manifests with its own characteristic signs and symptoms (*rupa*), and can be named and diagnosed by the methods of *nidana panchaka*. Management becomes disease-specific.

Bheda:- The disease matures into a stage of differentiation. It may become chronic, produce complications, or divide into recognised types. Sushruta uses the stages of *vranashotha* as the paradigm, in which an inflammatory swelling progresses toward suppuration and rupture. Prognosis (*sadhyasadhyata*) is most guarded at this stage, and it is said that a physician who is able to intervene only here has missed the earlier opportunities.

3.3 Kriyakala and Ritucharya

The classical texts observe that Doshas accumulate in one season, aggravate in the next, and pacify in a third, provided that seasonal regimen is followed. This links the stages of Kriyakala to *ritucharya*. Table 2 summarises the pattern as described by Charaka and Vagbhata. Sushruta uses a slightly different division of the year, and the reader should verify the season names against the edition consulted.

Table 2: Seasonal pattern of Dosha accumulation, aggravation and pacification.

Dosha	Sanchaya (accumulation)	Prakopa (aggravation)	Prashama (pacification)
Vata	Grishma (summer)	Varsha (rains)	Sharad (autumn)
Pitta	Varsha (rains)	Sharad (autumn)	Hemanta (early winter)
Kapha	Shishira (late winter)	Vasanta (spring)	Grishma (summer)

This means that the earliest stage of Kriyakala can be anticipated by season and corrected before disease develops, which is the rationale for seasonal purification and for the seasonal rules of diet and conduct.

3.4 Modern correlations

Table 3 offers a cautious correlation with the stages of the natural history of disease. It is intended as a teaching aid and not as an equivalence.

Table 3: Kriyakala compared with the natural history of disease.

Kriyakala stage	Approximate modern parallel	Illustrative example (conceptual)
Sanchaya, Prakopa	Stage of susceptibility; exposure to risk factors; early functional change	Sedentary habit and energy-dense diet with mild functional symptoms such as indigestion, before any laboratory abnormality
Prasara	Pre-clinical disease; biochemical or physiological disturbance	Raised fasting glucose or dyslipidaemia in the pre-diabetic range, without symptoms
Sthanasamshraya	Prodromal or early symptomatic stage	Non-specific symptoms such as fatigue, polyuria or joint pains before a diagnosis is established
Vyakti	Clinical disease	Diagnosis of a defined disease meeting accepted criteria
Bheda	Complications, chronicity, disability	Established end-organ complications

4. DISCUSSION

4.1 Kriyakala as a clinical timeline

The central contribution of Kriyakala is that it converts Samprapti from a description into a timeline that can be acted upon. The earliest stages, Sanchaya and Prakopa, are reversible by the simplest means, chiefly avoidance of the cause (*nidana parivarjana*) and adoption of opposite-quality diet and behaviour. By Prasara, more active measures are needed. By Sthanasamshraya and Vyakti, therapy must address the specific disease, and at Bheda the physician is managing consequences. The economy of treatment therefore decreases with each stage, and the framework is a clear statement of the value of early intervention.[7]

4.2 Relevance to prevention

Ayurveda's two stated aims are the preservation of the health of the healthy and the alleviation of disease in the sick. Kriyakala serves the first aim directly, since its early stages coincide with the period before disease can be diagnosed. In this respect it complements *dinacharya* and *ritucharya*. In modern terms, the first three stages correspond to the domain of primary and early secondary prevention, and the later stages to secondary and tertiary prevention.[8]

4.3 Relevance to lifestyle disorders

Metabolic, cardiovascular and many gastrointestinal disorders develop over years, with a long period in which the patient has no diagnosable disease yet feels unwell in vague ways. The Ayurvedic clinician who recognises the stage of *Agni* disturbance or *Ama* accumulation as Prakopa or Prasara is able to advise change at a point when a conventional diagnosis is not yet possible. This observation supports the use of Kriyakala in the assessment of *Santarpanajanya* and *Apatarpanajanya* conditions and in the design of preventive counselling in the Kayachikitsa outpatient department. It should be stated plainly that this is a hypothesis for clinical study and that the present review does not provide evidence that intervention at these stages changes outcomes.

4.4 Role of Sthanasamshraya and Khavaigunya

The concept of *khavaigunya* explains why a common vitiation produces different diseases in different individuals, and in this respect it anticipates the modern idea of individual susceptibility. Sthanasamshraya is where the *Dosha-Dushya sammurchana* takes place, and it therefore determines the identity of the disease. For the clinician, a careful search for purvarupa is a way of identifying this stage before vyakti.

4.5 Applications in specific disease groups

Chauhan et al. applied the six stages to the pathogenesis of cancer and proposed that the concept could be used with

modern methods to detect predisposition or early disease, and they emphasised the need for research to validate it. Reviews of Shatkriyakala in surgical disease use the *vranashotha* model and the sequence of shotha, pachyamana and pakva stages to time the use of *upakramas*. A recent systematic review concluded that awareness of the stages may assist in judging prognosis, and it highlighted the importance of dinacharya and ritucharya in preventing progression. A conceptual study by Umate stressed the use of Shatkriyakala in *nidana*, that is, in reaching a diagnosis and planning treatment.

4.6 Modern correlation with caution

The comparison with the natural history of disease is instructive but must be drawn carefully. A Dosha state is not equivalent to a single biomarker, and the stages of Kriyakala are functional and qualitative, not defined by laboratory or imaging thresholds. Any attempt to map them to biochemical stages should be treated as a hypothesis. It has been suggested that Prakruti-based and biomarker-based approaches could be combined for this purpose, but such proposals still await empirical testing.

4.7 Limitations of the concept and of this review

- The stages are described qualitatively, and no validated instrument exists for identifying Sanchaya or Prakopa in a given patient.
- Not every disease is described as passing through all six stages, and acute or traumatic conditions may skip the early stages.
- Texts differ in detail, including in the season assigned to each stage and in the number of patterns of Prasara.
- This review is conceptual. It does not include primary clinical data and cannot show that stage-based intervention improves outcomes.

4.8 Scope for further research

- Development of a symptom-based scale for the early stages (Sanchaya to Sthanasamshraya) in a chosen disease, with reliability testing.
- Observational studies that follow at-risk individuals, for example those with metabolic risk factors, and record Dosha-related features against later disease.
- Interventional studies comparing stage-appropriate management, such as seasonal *shodhana* or lifestyle correction, with usual care.
- Exploration of biomarkers that may correspond to the early stages.

5. CONCLUSION

Kriyakala is a systematic, preventive-oriented model of Samprapti that recognises six sequential stages from Dosha accumulation to complicated disease. Its practical message is that the earlier the stage at which the physician intervenes, the simpler and more effective the therapy. It complements the classical regimens of *dinacharya* and *ritucharya* and offers a framework for understanding lifestyle disorders that develop silently. The concept is broadly comparable to the natural history of disease, but the correlation is qualitative. Future work should focus on objective criteria for the early stages and on clinical studies testing stage-based intervention.

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