

Jaggery, Sugar, or sugar candy is dissolved in the liquid and strained to remove the foreign particles. This solution is boiled over a moderate fire. When the paka (phanita) is thereby (tantumat), when pressed between two fingers or when it sinks in water without getting easily dissolved, it should be removed from the fire. Fine powders of the drugs are then added in small quantities and stirred continuously and vigorously to form a homogenous mixture. Ghee or oil if required is added while the preparation is still hot and mixed well. Hone is added when the preparation is cool and mixed well.

Characteristics

The lehya should neither be hard nor be a thick fluid. When pulp of the drug is added and ghee and oil is present in the preparation, this can be rolled between the fingers. Growth of the fungus over it or fermentation is among others, sign of deterioration. When metal are mentioned, the Bahamas of the metals are used. In the case of drugs like bhallataka purified drugs alone are included in the preparation. The color and the smell depend on the drug used.

Preservation and Storage

The Lehya should be kept in glass or porcelain jars. It can also be kept in a metal container which does not react with it. Normally, Lehya should be used within one year.

Standardization of Avleha

Determination of pH: (same as in the case of Aristas)

Loss on drying: (same as in the case of Aristas)

Determination of Fat content (Avleha, Ghrita): Transfer a weighed quantity of well-mixed sample to extraction thimble. Extract with anhydrous ether (petroleum ether b.p. 40°C - 60°C may be used if the fat is not to be used for any subsequent determination; if fat values are to be determined, ether should be used) in a continuous extraction apparatus for 6 hours. Filter the extract in to a clean, dry weighed flask, wash the extraction flask with the small quantity of ether, and filter the washing in to weighed flask. Evaporate the solvent and dry to constant weight at 100°C.

The lehya should neither be hard nor be a thick fluid. When pulp of drug is added and ghee or oil is present in the preparation, this can be rolled between the fingers. Growth of the fungus over it or fermentation is, among others, signs of deterioration. When metals are mentioned, the bhasma of the metals are used. In the case of bhasmas like bhallataka purified drugs alone are included in the preparation. The color and a the smell depend on the drug used.

Examples Commonly used Avleha

Avagandhadi Lehya, Bilvadi Lehya, Cyavanaprasa, Draksavaleha, Suranaveleha, Vatjavaleha, Vasavaleha.

Asvagandhadilehya

S. No.	Ingredients	Botanical name (optional)	Plant Part used	Quantity used
				1.356 Kg.
1	Sarkara		Root	192 g.
2	Asvagandha Curna		Root	192 g.
3	Sariva curna		Fruit	192 g.
4	Jiraka curna		Rhizome	192 g.
5	Madhusnuhi curna		Dried fruit	192 g.
6	Draksa			226 g.
7	Ghrta			542 g.
8	Honey		Seed	24 g.
9	Ela curna			452 ml.
10	Water			

Dosage: 6 to 12 g. Anupana Milkz

Therapeutic Uses

1. Balya (Strength)
2. Rasayana (Rejuvenating agents)
3. Vajikarana (Aphrodisiacs)

Vasavaleha

S. No.	Ingredients	Botanical name (optional)	Plant part used	Quantity used
1	Vasaka svarasa		Leaf	768 g.
2	Sita (sarkara)			384 g.
3	Sarpi (ghrta)			96 g.
4	Pippali		Fruit	96 g.
5	Madhu			384 g.

Dosage: 6 to 12 g. Anupana Milk

Therapeutic Uses

1. Kasa (cough)
2. Svasa (Asthma)
3. Jvara (Fever)
4. Raktpitta (Bleeding disorders)
5. Raja yaksma (Tuberculosis)

Draksavaleha

S. No.	Ingredients	Botanical name (optional)	Plant part used	Quantity used
1	Draksa			
2	Kana (Pippali)		Dried fruit	768 g.
3	Sarkara		Fruit	768 g.
4	Madhuka (yasti-madhu)		Root	2.8 Kg. 96 g.

S. No.	Ingredients	Botanical name (optional)	Plant part used	Quantity used
5	Sunthi		Rhizome	96 g
6	Tvakasiri			96 g
7	Dhatni (amalaki) phalarasa			12.288 L.
8	Madhu			768 g.

Dosage: 6 to 12 g. Anupana milk water

Therapeutic Uses

1. Pandu (Anemia)
2. Kamala (Jaundice)
3. Halimaka (Chronic/advanced stage of jaundice)

CHURNA

Definition: Churna is fine powder of drug or drugs.

General Methods of Preparations

Drugs mentioned in the Yoga are cleaned and dried properly. They are finely powdered and sieved. Where there are a number of drugs in Yoga, the drugs are separately powdered and sieved. Each one of them (powder) is weighted separately, and well mixed together. As some of the drugs contain more fibrous matters than others, this method of powdering and weighting them separately, according to the Yoga, and then mixing them together, is preferred.

In industry, however, all the drugs are cleaned, dried and powdered together by disintegrators. Mechanical sifters are also used. Salt, Sugar, camphor etc., when mentioned are separately powdered and mixed with the rest at the end. Asafetida (Hinga) and salt may be taken fresh, is made into a paste, dried and then added.

Characteristics and Preservation

The powder is fine of at least 80 mesh sieves. It should not adhere together or become moist. The fine the powder, the better its therapeutic value. They retain potency for one year and should be stored in airtight containers.

Standardization of Churna

Determination of Fineness of Particles (Churna)

The degree of coarseness of fineness of a powder is differentiated and expressed by the size of the mesh of the sieve through which the particle is able to pass.

The following terms are used in the description of powders:

1. Coarse powder (10/44): a powder of which all the particles pass through a no. 10 sieve and NMT 40% through no. 44 sieve.

2. Moderately coarse powder (22/60): a powder of which all the particles pass through a no. 22 sieve and NMT 40 % through no. 60 sieve.
3. Moderately fine powder (44/85): a powder of which all the particles pass through a no. 44 sieve and NMT 40% pass through 85 sieves.
4. Fine powder (85): a powder of which all the particles pass through a no. 85 sieve.
5. Very fine powder: a powder of which all the particles pass through a silk sieve in not less than 120 meshes are included in a length of 2.54 cm. in each transverse direction parallel to the threads.

Sieve: The wire sieves used in shifting powdered drugs are distinguished by numbers which indicate the number of meshes included in the length of 2.54 cm. in each transverse direction parallel to the wires.

Procedure: a suitable quantity of the sample is weighted and transferred to the set of sieves no. 10 to no. 85. The sieves are taken in the sieve shaker for about 30 minutes and the residue of the each sieve is weighed separately. For 'Very fine powder' a silk sieve no. 120 is used.

Determination of Ash (Churna, Bhasma)

1. **Ash:** Incinerate about 2 to 3 g. accurately weighed, of the prepared sample in a tarred platinum or silicon dish at a low temperature until free from carbon, cool and weigh. If a carbon free ash cannot be obtained in the way, extract the charred mass with hot water, collect the residue on an ash less filter paper, incinerate the residue and filter paper and add the filtrate, evaporate to dryness and ignite to a constant weight at a low temperature. Calculate the percentage of ash with reference to the moisture free drug.
2. **Acid insoluble ash:** Boil the ash for 5 minutes with 25 ml of dilute hydrochloric acid (6N). Collect the insoluble matter in a Gooch crucible or on an ash filter paper, wash with hot water and ignite to constant weight at a low temperature. Calculate the percentage of acid insoluble ash with respect to the moisture free drug.
3. Boil the ash for 5 minutes, collect the insoluble matter in a Gooch crucible or on an ash filter paper, wash with hot water and ignite to constant weight at a low temperature subtract the weight of the insoluble matter from the weight of the ash; the difference in weight presents the water soluble ash. Calculate the percentage of water insoluble ash with reference to the moisture free drug.

Determination of Water Soluble Extractive (Churna)

Macerate 5 g. of drug in coarse powder, with 100 ml of chloroform water, in a closed flask four hour, shaking frequently during six hours and allowing standing for eighteen hours. Filter rapidly, taking precautions against loss of solvent, evaporate 25 ml of filtrate to dryness in a tarred shallow bottomed dish and dry at 100°C to constant weight. Calculate the percentage of water soluble extractive with reference to the moisture free drug.

Determination of Alcohol Soluble Extractive (Churna)

Proceed as above by using alcohol of the specific strength instead of chloroform water. The filtered ASAVAS or ARISTA should be clear without froth at the top. It should not become soar (cukra). The preparation has the characteristic aromatic alcoholic odour.

Examples of Commonly used Churna

Amalakyadi churna, Eladi churna, Hingvatsaka churna, Intupukkana churna, Narayana churna, Sitopaladi churna, Triphala churna, Trikatu churna.

Hingvatsaka Churna

S. No.	Ingredients	Botanical name (optional)	Plant part used	Quantity used
1	Sunthi		Rhizome	3 g.
2	Marica		Fruit	3 g.
3	Pippali		Fruit	3 g.
4	Ajamoda		Fruit	3 g.
5	Saindhava			3 g.
6	Sveta Jiraka		Fruit	3 g.
7	Krsna Jiraka		Fruit	3 g.
8	Hingu		Exudates	3 g.

Dosage: 1 to 2 g. Anupana Ghee.

Therapeutic Uses

1. Agnimandya (Digestive impairment)
2. Sula (Pain)
3. Gulma (Abdominal lump)

Evaluation Tests

1. Particle- size determination
2. Moisture content determination
3. Color, test and extractive value
4. Density

Triphala Churna

S. No.	Ingredients	Botanical name (optional)	Plant part used	Quantity used
1	Pathya (haritaki)		Fruit, Whole plant	1 part
2	Bibhita (bibhitaka)		Fruit, Whole plant	1 part
3	Dhatri (amalaki)		Fruit, Whole plant	1 part

Dosage: 3 to 6 g. Anupana ghee, Honey, warm water

Therapeutic Uses

1. Anaha (Distension of abdomen due to abstraction to passage of urine and stool.)
2. Prameha (Increased frequency and turbidity of urine)
3. Netra roga (Diseases of eyes)

Trikatu Churna

S. No.	Ingredients	Botanical name (optional)	Plant part used	Quantity used
1	Pippali		Fruit	1 part
2	Marica		Fruit	1 Part
3	Sunthi		Rhizome	1 Part

Dosage: 3 g. Anupana Honey, warm water.

Therapeutic Uses

1. Arocaka (Tastelessness)
2. Agnimandya (Digestive impairment)
3. Ama dosa (Products of impaired digestion and metabolism)
4. Gala roga (Diseases of throat)
5. Pinasa (Chronic rhinitis/Sinusitis)
6. Kustha (Skin Disease)

Intuppukana Churna

S. No.	Ingredients	Botanical name (optional)	Plant part used	Quantity used
1	Intuppu (saindhava)		Fruit	1 Part
2	Ayamoda (ajmoda)		Fruit	2 Part
3	Tippali (Pippali)		Fruit	4 Part
4	Haritaki		Fruit, Whole plant	6 Part

Dosage: 6 g. Anupana, warm water, sour butter milk.

Therapeutic Uses

Agnimandya (Digestive impairment)

Amalakyadi Churna

S. No.	Ingredients	Botanical name (optional)	Plant part used	Quantity used
1	Amala (amalaki)		Fruit, whole plant	1 Part
2	Citraka		Root	1 Part
3	Pathya (haritaki)		Fruit, Whole plant	1 Part
4	Pippali		Fruit	1 Part
5	Sindhava		Fruit	1 Part

Dosage: 3 to 6 g. Anupana warm water.

Therapeutic Uses

1. Aruci (Tastelessness)
2. Agnimandya (Digestive impairment)
3. Jvara (fever)

BHASMA

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Definition: Bhasma is the powder of a substance obtained by calcinations is called Bhasma. It is applied to the metals and mineral products which are prepared by special processes in closed crucibles in pits and with cow dung cakes (puta).

Methods of Preparation: First Stage (Sodhana)

Bhasmas are prepared from minerals, metals, marines and animal products. In ayurveda, the process of purification is called 'sodhana' which is of two types:

1. Samanya sodhana, which is applicable to a large number of metals or minerals, as heating the thin sheets of the metals and immersing them in taila, takra, gomutra, etc.
2. Visesa sodhana, which is applicable only to certain drugs and in certain preparations.

Second Stage (Marana)

The second stage is the preparation of Bhasma. The purified drug is put into a khalva (stone mortar and pestle) and ground with the juices of specified plants or kasayas of drug then small cakes (cakrikas) are made. These cakes are dried well under sunlight and placed in one single layer in a shallow earthen plate (sarava) and closed with another plate. The edge is sealed with clay smeared cloth in seven consecutive layers and dried.

A pit is dug in a open space. The diameter and depth of the pit depends on the metal or a mineral that is to be calcined. Half of the pit is filled with cow dung cakes. The sealed earthen container is placed in it and the remaining space is filled with more cow dung cakes. Fire is put in all four sides and the middle of the pit. When the burning is over, it is allowed to cool completely. The earthen container is removed, the seal is opened and the contents are taken out. The medicine is grounded in a fine powder in a khalva. The process of triturating with the juice, making cakrikas and giving putas, is repeated as many times as prescribed till the proper fineness and quality are obtained. The putas are described under different names to indicate the size of the pit and the number of cow dung cakes to be used, detail of which are given in the paribhasa. They also indicate the amount of heat required and the period of burning. The following putas are commonly used in the preparations of Bhasma:-

1. Maha puta
2. Gaa puta
3. Varaha puta
4. Kukkuta puta
5. Kapota puta
6. Bhandra puta

Characteristics

The tests for properly prepared Bhasma are:

1. There should be no chandrika (metallic lusture) i.e. Nischandriaka.
2. When taken between the index finger and thumb and spreader, it should be so fine as to get easily in to the finger line (rekha purita).
3. When a small quantity is spreader on cold and still water, it should float on the surface (varitarum).
4. The Bhasma should not revert to the original state (apunarbhava).

5. They have no characteristic taste.
6. Bhasmas are, unless otherwise specified in individual formulations, generally yellowish, black, dark white, gray, and reddish black and red; depending upon the predominant drug as well as the other drugs used in the process of marana.

Preservation

Bhasmas are preserved in air tight glass or earthen containers. They maintain their potency indefinitely. They have no characteristic taste.

Standardization of Bhasmas

Determination of Ash

Same as in the case of Churna.

Tests for Bhasmas

1. There should be no chandrika (metallic lusture) i. e. nischandrika.
2. When taken between the index finger and thumb and separated, it should be so fine so as to get easily into the finger line (rekha purita).
3. When a small quantity is spreader on cold and still water, it should float on the surface (varitarum).
4. The bhasma should not revert to the original state (apunarbhava).
5. They have no characteristic taste.
6. Bhasmas are, unless otherwise specified in individual formulations, generally yellowish, black, dark white, reddish black and red; depending up on the predominant drug as well as the other drugs used in the process of marana.

Examples of Commonly Used Bhasmas

Abhraka bhasma, tamra bhasma, Svarna bhasma.

Svarna Bhasma

Samanaya sodhana (as per tamra)

Svarna patra	Q.S.
Taila	Q.S. (for nirvapana)
Takra	Q.S. (for nirvapana)
Kanjika	Q.S. (for nirvapana)
Go-mutra	Q.S. (for nirvapana)
Kulatitha kasaya (seeds)	Q.S. (for nirvapana)

Vesesa sodhana not needed.

1. If gold is 99.9% pure, no suddhi is required.
2. While preparing makaradhvaja, gold is recovered at the bottom. This Gold can be utilized for marana.

Method for Marana (A)

In suddha suta, sodhita svarana is added and triturated to make a bolous. Half the quantity of gandhaka is kept in a svarana goloka is kept on it. The goloka is covered with the remaining gandhaka and then covered with another svarana. Sandhi lepa of svarana samputa is done and dried in sunrays. Puta with 30 vanopalas is given adding gandhaka each time; the process is repeated 14 times.

Marana (a)	
Svarana (suddha)	1 part
Suta (parade)	1 part
Gandhaka	3 part

Method of Marana (B)

Sveta malla is added to sodhita svarana and triturated well with kancanara kvatha for a day and tulsi svarasa for a day. Small thin cakrisaak is prepared and dried. These kakrikas are kept in sarava samputa, sandhi lepa is done and laghu puta is given. The processes repeated 10 times. The quantity of mala is 1/4th from 2nd puta. The color of this Bhasma will be red.

Marana (b)	
Svarana	1 part
Sveta mallaka	1 part
Kancanara drava (kvatha)	Q. S. (for mardana)
Tulsi Svarasa	Q.S. (for mardana)

Note: for preparing svarana bhasma always laghu puta is advised.
Dosage: 15.5 to 62.5 mg. Anupana Honey, butter

Therapeutic Uses of Marana (A)

1. Amalapitta (hyper acidity)
2. Apasmara (epilepsy)
3. Buddhiksaya (impaired intelligence)
4. Dhatuksaya (tissue wasting)
5. Grahani (mal absorption syndrome)
6. Hikka (hiccup)
7. Hrdyoga (heart diseases)
8. Jvara (fever)
9. Pandu (anemia)
10. Phiranga (syphilis) *shila shilaf*
11. Raja yaksma (tuberculosis)
12. Sarira varna hani
13. Smrtihani
14. Snayudaurbalya (weakness of ligament)
15. Svarabheda
16. Svasa (asthma)
17. Unmada (mania psychosis)
18. Vata roga (diseases due to vata dosa)
19. Visa (poison)

Therapeutic Uses of Marana (B)

1. Jara (progeriasis/senility) ³⁶⁷⁴¹
2. Kustha (skin disease)
3. Madhya (brain tonic)
4. Raja yaksma (tuberculosis) ³⁸²¹⁷
5. Rasayana (rejuvenating agent)
6. Smruti Vardakas ³¹²⁶⁴
7. Unmada (mania/psychosis)
8. Vajikara (aphrodisiac)
9. Visa (poison).