



Prevention in Musical Theatre and Dance

A self-care orientated teaching syllabus for multipliers at schools and theatres, part 1, 15 units (Scotsy.MD1.15).

Methodical-didactic commentary

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Picture credits:

A. Wanke (all illustrations)

VBG – Ihre gesetzliche Unfallversicherung

The VBG is a statutory accident insurance with around 36 million insurance relationships in Germany. VBG’s policyholders are employees and voluntarily insured entrepreneurs, civic activists and many more. More than one million companies from more than 100 sectors belong to VBG – from architectural offices to temporary employment agencies.

Further information: www.vbg.de



Syllabus: Prevention in musical theatre and dance

Education for multipliers at schools and theatres.

Scotsy.MD1.15

Self-care orientated teaching syllabus.

Musical/Dance, part 1, 15 units

Methodical-didactic commentary

Version 1.0/2017-06

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Foreword

Of all work-related accidents, about one third are sustained by arts performers according to the 'Stages and Studios' sector of the German Social Accident Insurance for the administrative sector (VBG). Close inspection of the accidents involving musical performers and dancers reveals a very wide spectrum of accident causes. In addition to safety and organizational hazards, many accident incidents suggest that preventive behavioural measures could not only reduce the serious consequences of injury, but also help prevent accidents.

For various reasons musical theatre performers – as well as professional dancers – often perceive accidents and chronic complaints as part of their work. It is therefore not uncommon to trivialise, but also to continue training or a performance despite injuries for existential reasons. The aim must therefore be to impart knowledge on fundamental topics of occupational safety and health protection already at the formative stage of their training and education and to awaken prospective artists to the importance of their own health. In addition, the aim of musical theatre performers and professional dancers already in employment must also be to expand their knowledge by means of well-founded and target-group-oriented information and thus generate more awareness of their own health.

The documents can be downloaded from website:
www.vbg.de/prevention-musical-dance

1 Introduction to the syllabus

Structure and content

The syllabus includes various relevant topics consisting of:

- background information for teachers
- slide sets for professional presentation
- methodical-didactical concept
- work sheets and information for seminar participants

The syllabus was initially designed for 15 teaching units. It is possible to expand and extend the scope of instruction using the available course material.

Target group and qualification

The educational **syllabus** (methodological-didactical commentary and instruction aid/background information) is aimed at:

- employees at vocational musical theatre schools or professional dance training institutions already active as multipliers or considered as such. These can be lecturers or teachers of the school in question but also other direct consultants such as the company doctor or external lecturers of the training institutions (e.g. medical doctors, physiotherapists as well as occupational safety specialists experienced in the performing arts and so on).

The target group already has prior general knowledge of occupational health and safety, occupational safety and prevention, knows the specifics of musical theatre and dance education and is also familiar with educational-related needs. This also includes knowledge of the causes of accidents and work-related illnesses. An appropriate didactic-pedagogical qualification is indispensable.

The **instruction** aid (without the methodological-didactic commentary) is intended to address three target groups:

- instructors at musical theatres or theatres with musical productions as well as at theatres with own dance ensembles or regular dance performances. Since instruction is generally the responsibility of the entrepreneur, this may for instance include the artistic director or other superiors of the performers.
- consultants, such as the company doctor, occupational safety specialists, physiotherapists, and so on, who thereby receive help in order to support the entrepreneur's instructions.
- prospective and vocational musical theatre performers as well as future professional dancers (students).

However, it should be noted that this syllabus focuses on the preventive modification of risk-associated behavior in prospective musical theatre performers and dancers and is therefore not intended as a complete guideline.

It may therefore be necessary to refer to the literary references provided as well as to further literature in consultations.

Contents

This syllabus follows the idea of a “self-care orientated teaching syllabus” (Scotsy) for the category groups musical theatre (M) and dance (D) with 15 teaching units (1.15) in the first part.

Initially, the main focus of this basic syllabus is on contents that are primarily assigned to accident prevention based on behavioural modifications and could therefore be implemented by students of the musical theatre and dance education categories by changing their own behaviour before, during or after performing the execution of an activities and could also be implemented almost independently of the training institution. In addition, the focus of the selection of topics is primarily on the musculoskeletal system. In the case of a syllabus extension, other topics will also be considered (e.g. voice, substance consumption).

Aspects relating to the working environment are touched upon and mentioned with the primary aim of increasing levels of knowledge.

Educational syllabus

The multipliers are provided with subject-specific information on prevention in the category of musical theatre and dance. The contents are prepared in such a way that multipliers can integrate these into their lessons. The preparation for the lessons is backed up by a didactic methodical guideline in order to make the preparation of the contents and also the thought structure for passing the information on to the students of the musical theatre and professional dance category groups comprehensible.

Instruction aids/background information

Managers at musical theatres and theatres with musical productions and dance performances are accordingly responsible for instructing their employees as well as the employed musical theatre performers and professional dancers.

Therefore, selected, specific hazards and the relevant required protective measures are components of the instruction. The topics of the instruction aid have been designed to provide managers with meaningful and useful aids for the instruction in relevant topics. This also applies to company doctors, occupational safety specialists and so on in case of consultations.

How to use this material

This syllabus should be considered as a structured collection of teaching ideas. It is not intended to be complete but is structured in such a way that teachers are free to add their individual design (e.g. creation of further work sheets, implementation of alternative games on the basis of available information and so on), fitting into the proposed concept.

The proposed procedure in the methodological-didactic commentary suggests that some of the working materials are produced by the teachers themselves.

The existing learning tools, such as work sheets or slides, are marked as follows:

▶ Slides 1–14

▶ Work Sheet 1–25

Who are Tom, Lucia and Ville?

Tom



Musical theatre and dance student. Scotsman, “an amiable chaot”, badly organized, constantly looking for something (training shoes, mobile phone, water bottle, keys)

Lucia



Musical theatre and dance student. Italian, extremely well organized. Before she starts training, she has already done shopping, laundry and so on ... Her favourite dance style: ballet

Ville



Musical theatre and dance student. Finn, extremely helpful, can hardly say “No”. His landlady is 89 years old and loves to dance tango. And Ville regularly dances tango with her. He works part-time in a bistro. His nickname is: “I can help Ville”.

Qualification

In addition to a content-related qualification, a pedagogical-didactical (teaching) qualification of the teaching staff is required.

Margins

The syllabus in its present form can be used for the education or training of prospective students. At the same time, it offers sufficient room for the development of teachers' own ideas for expansion.

When using, even in extracts (for example formulations, photos and illustrations), care is to be taken to ensure correct citation.

Form of address

The form of address for students and teachers depends on the composition, the group dynamics and the school concept and can be adjusted accordingly.

Learning speed

The group dynamics are to be taken into account when determining speed of learning and choice of activities. Here, too, didactic flexibility on the part of the teachers is essential.

Structure

The individual teaching blocks are self-contained and can therefore be used independently of each other. Nevertheless, they are built on each other and follow a sequential structure with the final units representing the summarized knowledge transfer of what has been dealt with so far.

Literature

The references used for the texts are listed by theme at the end of each instruction aid. Since the internet references have been directly incorporated into the text, no internet references are found in the bibliography. The literature does not claim to be complete. However, further information on the individual topics can be found in the reference listed there.

Primary theoretical implementation

The contents presented are intended to be primarily imparted by theoretical-didactic methods, even if a partial practical implementation of the seminar or teaching contents would be conceivable and possible.

2 Syllabus



Unit 1/2

...Introduction – warm-up...

Challenges – biorhythm – insurance system



Vocational education marks the beginning of a new phase in life. The students of the musical theatre and dance category groups have to cope with many new things simultaneously. These include both physical and psychosocial demands, which are on the one hand characteristic and specific for this occupational profile but on the other hand non-specific and typical only for this particular phase of life.

This teaching or seminar unit contains three main focuses:

- Physical and psychosocial challenges associated with education,
- individual biorhythm,
- basics of the German insurance system.

In this initial and introductory unit, the participants will be motivated to deal with some basic aspects that will accompany them during their education. These include:

- reflecting on the demands of this phase of life,
- determining one's own biorhythm on the basis of the acquired knowledge,
- acquiring knowledge on the use of the terms 'statutory accident insurance – occupational health and safety – occupational accident – occupational safety'

Areas of expertise – professional competence

Main objectives

The participants

- determine the demands resulting from the education,
- determine their individual biorhythm and classify it,
- acquire knowledge of statutory insurance cover.

Specific objectives

The participants

- identify and name physical and psychosocial (also as mixed forms) educational demands and differentiate in greater detail between specific and non-specific educational demands (generally associated with this phase of life),
- get to know the terms circadian rhythm, biorhythm, morning type, evening type and determine their individual biorhythm,
- develop the optimal biorhythm for students of musical theatre and dance education and consider strategies for use if the biorhythm does not fit optimally,
- acquire knowledge of the basic concepts of statutory insurance cover, the tasks of statutory accident insurance and their behaviour in the event of (occupational) accidents,
- learn to use the newly acquired knowledge for their individual needs.

Areas of expertise – methodical competence

The participants

- use group work (wall newspaper, flip charts),
- learn to converse and discuss in the group sessions,
- learn to do literature research.

Areas of expertise – social competence

The participants

- discuss their own results with others and develop strategies,
- practice teamwork.

Outline

Besides a brief introduction, this unit consists of three parts:

- challenges
- how humans tick
- in the worst case – facts worth knowing about occupational health and safety – occupational safety – occupational accident – statutory accident insurance

Take this three-way division into account in your procedure.

1. Welcome

- Welcome the participants and introduce yourself.
- Set rules (no mobile phones, break planning, dealing with spontaneous questions and so on).
- Introduce the subject.

2. Ice breakers

Get to know your participants better. Simple ice breakers are suitable for this and not only allow you to gather information about their participants informally, but also facilitate interpersonal communication between participants.

a) Living statistics “Map of Germany”
(according to: Mamczek & Leder 2012).

Imagine that the classroom or seminar room corresponds to a map of Germany (alternatively a map of Europe or the world). As a short introduction, ask the participants to position themselves according to their place of birth/last school location or similar. Form a landmark with a city, for example Munich, Hamburg, Berlin (or a country). Reflect on the distribution. Involve the participants. What do the participants notice?

- Are there concentrations?
- How many participants come from abroad?
- How many different countries of origin are represented in your group?

b) Living statistics (according to Mamczek & Leather 2012): **“Snake or circle” formation.**

Get up, move to a larger space in the room and tell the participants: I got up at 04:30. Address a participant and ask: What about you? The participant got up earlier and moves to your right. Participants who got up later line up to the left.

This results in an ascending circular form predicated upon the times when each one got up. If a circular shape is not possible due to the spatial conditions, select the snake shape.

The following questions are suitable to continue:

- When does each participant usually get up in the mornings?
- For how many years has each individual participant been taking musical theatre or dance lessons?
- How many kilometres is the accommodation away from the educational centre?
- How many kilometres does each individual participant travel per day?

Reflect on the result

- Did the participants imagine results like this?
- How big is the discrepancy between the lowest and highest value?
- Or are the values close together?

3. Group work – “Challenge”

The education goes hand in hand with partly challenging and unfamiliar demands.

▶ Slide 1 and 2 from slide set

a) Ask the participants to specify the demands. Divide them into psychosocial and physical demands. Explain beforehand what is meant by these terms and give an example for each group.

b) Ask the participants to name a ranking of the ‘TOP 3 most difficult demands to master’.

Divide into small groups and explain the tasks in a few introductory sentences. As a variant, you could form groups separated by gender. The tasks are processed on flip chart paper in the form of wall newspapers.

Discuss the results after part A.

- Do all groups see similar or identical demands?
- Are there gender-specific differences?

Now ask them to deal with part B and then discuss the results. Please consider the following questions:

- Are there gender-specific differences?
- Are there differences according to origin?

4. Are you a “morning grouch”?

a) Presentation

Present the circadian rhythm and biorhythm of the human body in a short presentation based on your slides. Discuss the advantages and disadvantages of this rhythm.

▶ Slide 3 to 5 of the slide set

b) Work sheets – Biorhythm

▶ Work sheet – Biorhythm (Page 59)

Distribute the work sheets with the biorhythm type questions to answer. Collect the results in the form of a group statistics:

- How many morning types are there?
- How many evening types are there?
- How many are more mixed types?

c) Reflection/discussion

Discuss which type is most suitable for the occupation of musical theatre performer or professional dancer.

Together with the group, consider what could be done by those whose biorhythms do not optimally fit the structure of the education.

5. Interesting facts about occupational health and safety

- statutory accident insurance
- occupational accident
- occupational safety

a) Presentation

Present the significance of the above terms

- ▶ Slide 6 – 12 of the slide set.
If necessary divide further

b) Distribute the case studies to be processed by small groups

- ▶ Work sheets: Case studies
(Page 60/61)

Distribute the work sheets and ask the participant to process the case studies in small groups. Discuss the two cases in the full group.

Alternatively, the work sheets can be used as a home assignment with the results being discussed in a subsequent session.

c) If necessary, discuss the following aspects:

- To whom do the prospective artists turn to in the event of an accident at work? Where are the nearest accident insurance consultants? (Ask the participants to do a short internet search with internet-enabled smart phones/mobile phones.)
- Where can telephone numbers and addresses of accident insurance consultants be found in the educational institution?
- Which trade association or accident insurance fund is responsible for the educational institution?

6. Brief knowledge check

- ▶ Work sheet: Check up (Page 62)

Distribute the questionnaire to the participants. Ask them to complete it in the following minutes. Specify the time available (5 minutes/10 minutes). Then distribute the solutions for independent check.

7. Final remarks/feedback

Design of class or seminar

Procedure: deductive/inductive

	Work phase/contents	Method	Media	Duration: 90 minutes
1.	Welcome participants Presentation of the teacher Rules of the game Program outline/schedule	In full group session Presentation	Projector/laptop	5 minutes
2.	“Ice breaker” (introduction) “Living statistics” with debriefing	Others	None	10 minutes
3.	“Challenge“	Group work, discussion	Flip chart/ wall newspaper	20 minutes
4.	“Morning grouch” a) Presentation	Presentation	Projector/laptop	10 minutes
	Break			5 minutes
5.	Tasks b) Biorhythm work sheet c) Subsequent discussion	Discussion in full group session	Individual work	15 minutes
6.	Occupational health and safety terms worth knowing a) Presentation b) Case studies c) Check up	Presentation Group work/in full group session Individual work	Projector/laptop work sheets	25 minutes
7.	Concluding remarks feedback/evaluation	In full group session	Work sheet	5 minutes

Required material:

- projector and laptop
- flip chart paper/fixing material
- colouring pens
- work sheet copies

Literature:

Bettina Ritter-Mamczek, Andrea Lederer: 22 splendid Ideen. splendid-akademie. Berlin: 2012.

Unit 3/4

...In search of the 25th hour...

Plan effectively – save time – live healthier
(health care by time management in the
musical theatre and dance category groups)



The time factor plays an important role in daily life. This applies all the more, when a new phase of life begins in vocational education where so much is completely new. Without being aware of it, there are individual behaviour patterns or time thieves which additionally narrow the already restricted windows of available time, and ultimately pose a threat to individual performance and psychophysical health

There are 3 aspects important for the students:

- time management,
- work-life balance (temporal relationship between load and recovery),
- points in time (e.g. accumulation of health problems).

In this unit, the participants will be motivated to deal with the different facets of the time aspect. These are in particular:

- the recognition of behavioural patterns that hinder effective time management,
- the identification of so-called “time thieves”,
- the development of a strategy of improved time management through the use of models that contribute to maintaining health.

Areas of expertise – professional competence

General objectives

The participants

- learn about the importance of time management in the context of individual health care (self-care) and increase individual effectiveness,
- optimise their own time management and work out time resources by setting priorities based on existing concepts.

Specific objectives

The participants

- identify time-consuming factors in the education,
- recognise the connection between the aspects ‘time – organization of tasks – health’,
- get to know their own behaviour patterns by organizing their daily tasks,
- get to know different models of time management which can be used for a targeted planning of upcoming tasks,
- use one of the models as an example for their own needs.

Areas of expertise – methodical competence

The participants

- use group work,
- practise in full group session,
- create a wall newspaper,
- set priorities according to the “Eisenhower principle”,
- work additionally with case studies,
- plan the participation in an audition, the organization of a costume flea market or an open day at the educational institution.

Areas of expertise – social competence

The participants

- recognise their own deficits regarding time management,
- discuss their own results with others and develop strategies,
- practise team work.

Outline

1. Welcome

- Welcome the participants and introduce yourself.
- Set rules (no mobile phones, planning of breaks, dealing with questions and so on).
- Briefly outline the topic of the unit.

2. “Ice breakers” (entry)

a. “Wall time”

As a brief introduction, ask the participants to spontaneously write down words or make sketches regarding the aspect ‘time’ on posters hanging on the wall (alternatively blackboards).

Discuss the results afterwards. Consider the following aspects:

- Are there any duplications?
- Are there any ratings? (negative or positive aspects/words)
(Examples: ice age, time window, time shortage, time travel, wintertime, summertime ...)

Material: flip chart paper and fixing material/pencils, alternatively blackboard and chalk

b. “Time image”

Ask the participants to give their opinion on the following questions:

- Who sensed a feeling of time pressure today?
- How many students sense this feeling more often than once a day or once a week?
- How many students often do several tasks in parallel?

Write the answers on the flip chart/blackboard as a total/percentage and leave it there.

3. Presentation

Briefly describe the importance of time in relation to health (compare background information for the teacher and slides).

4. “Time thieves”

▶ Work sheet “Time thieves” (Page 63)

Distribute a “time thieves” handout and ask the participants to complete it. Then discuss the results in full group session.

If necessary, compile statistics on selected questions in the questionnaire:

- How many participants check their e-mails several times a day?
- How many participants tend to put off unpleasant work for as long as possible?
- How many can’t say ‘No’?
- ...

Summarise the results. What is striking?



5. Group work: daily work tasks

Ask participants in small groups to write down the tasks of a typical day in tabular form. Despite some overlaps, it is possible to differentiate between two categories, which can be named differently. Examples for naming of categories could be:

vocational – private
education – leisure time

Stimulate the participants' imagination by a few examples, such as flat tyres, grandpa's birthday, forgetting your front door keys...

Motivate participants to write down routine activities. The longer the list, the more fun it is.

Go around, give tips and make suggestions, especially to those groups that only have a short list.

Do not give comments on the results at this point. Just make sure that the lists are realistic and complete. Otherwise, go immediately to point 6.

6. “Time can't be managed but priorities can”

Briefly describe the Eisenhower principle.

▶ See slide set

Now ask the original groups or groups with a different composition to enter their daily tasks in a flipchart prepared by you for the individual groups with the empty Eisenhower scheme. Follow the discussions of the individual groups and make the groups scrutinise again and again which of the tasks can definitely not be planned and are so important and urgent that they belong in the quadrants at the top left and have to be done immediately and cannot be delegated.

In the end, the result should be that the majority of the tasks can be planned in advance and that only unforeseen events (e.g. flat tyres) or appointments (e.g. grandfather's birthday) have to be done immediately and personally. This leaves the quadrant at the top left mostly empty or almost empty, which can lead to a surprise effect for the participants, i.e. to an “Aha experience”.

7. Discussion of the results

Discuss the results of the flip charts and the individual groups. To do this, have the results briefly presented by a previously appointed group spokesperson. For this purpose, you can hang the individual wall newspapers in a row or leave them at the place of processing.

Develop strategies in full group session that support effective scheduling (compare background information for teachers)

8. Final remarks/feedback

Ask the participants about the TOP-3 statements of this teaching unit. What was good? Are there any more questions? Are there any suggestions?

9. Work sheet: What lessons do you draw from today's topics?

▶ Work sheet: End (Page 64)

Additional material:

10. Case studies

▶ Work sheets: Case studies (Page 65/66)

Distribute the work sheets and have the case studies processed in small groups. Discuss the two cases in full group session.

Alternatively, you could use the work sheets as a task to discuss the results in a subsequent unit.

See case studies work sheets:

- Ville
- Tom

11. Mind Mapping

- open day
- participation in a casting

Briefly introduce this method in case you have not yet done so.

Distribute the work sheets "Mind Mapping".

▶ Work sheets: Mind Mapping (Page 67/68)

Ask the participants to work on the examples in small groups or alone (also as a homework assignment).

Discuss the results. Summarize them in writing on a wall newspaper. For example, each group could supplement its results in writing on the wall newspaper.



Design of class or seminar

Procedure: deductive/inductive

	Work phase/contents	Method	Media	Duration: 90 minutes
1.	Welcome Introduction of the teacher Rules of the game Program outline/schedule	Presentation	Projector laptop	5 minutes
2.	“Ice breaker” (introduction) with debriefing	Group work in full group session	Flip chart/ wall newspaper	10 minutes
3.	Significance of the time factor	Presentation Discussion and debate	Projector/ laptop	15 minutes
4.	Entry into joint work with the task “time thieves” with discussion of results	Individual work	Work sheet/ own handouts	15 minutes
	Break			5 minutes
5.	Tasks for group work ‘daily tasks’	Small group work (a)	Work sheets/flip chart/ pin board/blackboard	15 minutes
6.	Organization of tasks “Eisenhower”	Small group work (b)	Flip chart/pin board/ blackboard	15 minutes
7.	Discussion	In full group session	Projector/laptop/ flip chart	5 minutes
8.	Concluding remarks/ conclusion/feedback/ evaluation	In full group session	None	5 minutes
9.	Handouts “What lessons do I draw from today’s topics?”	In full group session	Work sheet	10 minutes

Required material:

- flipchart paper
- pens
- fixing material
- projector and laptop (including power supply/
multi-socket/extension)
- copies of work sheets/questionnaires
- wall newspaper or blackboard and chalk

Unit 5

**...When the floor is too slippery
and the costume too long...**

Hazards



In this teaching and seminar unit the focus is on the various potential hazards in the working environment of the musical theatre and dance category groups, as hazards can cause health problems. In particular, the exogenous factors of structural prevention are in the main focus frequently recognised as such, but not always effectively addressed.

In this unit the participants shall be motivated to deal with potential hazards and to acquire knowledge.

Areas of expertise – professional competence

General objectives

The participants:

- get to know different groups of hazards,
- recognize the significance of these threats to their health,
- develop measures to prevent selected hazards.

Specific objectives

The participants:

- define exogenous and endogenous hazards,
- collect examples of potential hazards,
- learn about the significance of vulnerability in the development of traumatic injuries as well as chronic damage,
- learn to look at selected exogenous hazards in a more differentiated way,
- reflect on the contents with their own empirical values,
- develop measures to be implemented by groups of people involved (e.g. employers, school management) and on their own initiative and behaviour,
- learn to use the newly acquired knowledge for their individual needs.

Areas of expertise – methodical competence

The participants:

- work individually (questionnaire with reflection),
- provide transfer of knowledge,
- practice presenting, talking and discussing in the full group,
- learn through work in groups.

Areas of expertise – social competence

The participants:

- discuss their own results with others and develop strategies,
- work together as a team,
- practise research.

Outline

1. Welcome

- Welcome the participants and introduce yourself.
- Set rules (no mobile phones, break planning, dealing with spontaneous questions and so on).
- Introduce the topic of the unit.

2. Definition: “acute – chronic” and “exogenous – endogenous”

Ask questions in full group session. Start here with a short question and answer session on the significance of the terms.

Now start with the presentation described above.

▶ Slides 1–3 of the slide set

3. Hazards – all there are ...

Collect exogenous and endogenous hazards named by the participants through discussion and debate. Categorize the hazards according to whether they are exogenous or endogenous. You can do this a priori or, in a second step, by dividing a complete list of possible hazardous influences into exogenous and endogenous factors (two-staged).

▶ Slide 4 of the slide set

4. Nameless statistics

- a) Distribute sheets on which two statistics are displayed. Ask the participants in groups (for example groups of 4) to label the columns.

▶ Work sheets (2) (Page 69/70)

- b) Collect an opinion poll on the labelling. This can be done, for example, on an enlarged image (for example, on flip chart paper).

- c) Briefly discuss the results and compare the suggestions of your participants with the evaluated results of the study:

- Were the results to be expected?
- What’s surprising?
- Do the suggestions correspond to the real results? If not, where not? If yes, where?

▶ Slides 6–8 of the slide set

5. Whispering round – exogenous dangers

- a) Distribute cards with examples of the most common exogenous hazards (e.g. floor, partner, props, costume) and ask the participants to think about it in pairs:

- What exactly could trigger or cause this?
- What can be done about it?
- Have you ever come into contact with these hazards?

- b) Subsequently, compile these results in a large table/chart visible to all.

6. Final remarks/feedback

Design of class or seminar

Procedure: deductive/inductive

	Work phase/contents	Method	Media	Duration: 45 minutes
1.	Welcome Introduction of the teacher Rules of the game Program outline/schedule	In full group session Presentation	Projector/laptop	3 minutes
2.	Acute – chronic and exogenous – endogenous	Discussion and debate Presentation	See above	5 minutes
3.	Hazards – all there are...	In full group session Discussion and debate	Flip chart/ wall newspaper	10 minutes
4.	“Nameless statistics” a) Distribute sheets b) Collect opinion poll c) Discussion	Group work in full group session	Flip chart/pin board or blackboard	10 minutes
5.	“Whispering round” – exogenous hazards a) Group work b) Discussion	Pair work in full group session	Paper/cards	15 minutes
6.	Feedback – concluding remarks	In full group session	Work sheets, if applicable	2 minutes

Required equipment and material:

- projector/laptop with power supply (if necessary extension cord, multiple socket, connection of laptop and projector)
- flip chart paper, pens, fixing material
- if applicable, copies
- if applicable, DIN A 6-/DIN A 7 cards

Unit 6/7

...When the heart is pounding like mad...
Change behaviour – become more efficient



A successful education depends on many factors. On the one hand, it requires high-quality educational options, on the other hand, optimised behavior in practical training can not only contribute to increasing one's own technical and artistic progress. It can also help to reduce or even avoid acute injuries and chronic faulty use or overuse damages, respectively, and enhance individual performance.

The aim of this unit is to motivate the participants to deal with their own behaviour in practical education and to reflect on it. In the course of the process new knowledge will be used to develop strategies to help increase the success of education and thus improve opportunities in the highly competitive labour market.

Areas of expertise – professional competence

General objectives

The participants

- get to know aspects that complete their training,
- develop measures to optimise their own behaviour.

Specific objectives

The participants

- get to know the significance of the aspects “warm-up”, “workout”, “cool-down”, “regeneration and relaxation” and “fitness training” and extend their knowledge,
- reflect on their own behaviour regarding these aspects,
- learn and develop measures that contribute to optimise their own behaviour,
- learn to use the newly acquired knowledge for their individual needs.

Areas of expertise – methodical competence

The participants

- discuss the importance of the above-mentioned aspects,
- provide transfer of knowledge,
- practise in full group session (presentation/discussion and debate),
- learn to work in groups.

Areas of expertise – social competence

The participants

- discuss their own results with others and develop strategies,
- work together as a team,
- learn to do research.

Outline

1. Welcome

- Welcome the participants and introduce yourself.
- Set rules (no mobile phones, break planning, dealing with spontaneous questions and so on).
- Introduce the topic of the unit.

2. Getting in the right mood – “structure concerning the education”

Ask the participants divided into small groups, to categorize the cards distributed to them with basic terms (DIN A 6/DIN A 7) so that it becomes clear how the terms belong together. This could be done on the floor, but also, for example, on flip chart paper or wall newspapers. You can either distribute as many cards as there are terms or just one card with the following terms on it:

- training (class)
- “warm-up”
- “pre-seasonal preparation”
- “cool-down”
- regeneration and relaxation
- workout

Now compare the structures of the individual groups:

- Are there any parallels?
- Are there any differences?
- Is there any connection between these terms at all?
- Is there a hierarchy within the terms?

Reflect briefly what you can learn from it.

▶ Slides 1–2 of the slide set

3. “Warm-up”

a) Present the effects and TOP 10 of the “Warm-up”

▶ Slides 3–5 of the slide set

b) Now ask the participants to consider in a “whispering round” which concrete exercises such a “warm-up” should contain. Depending on group size and time resources, have only one or two of the following aspects (find exercises) done.

- slow to fast
- less intensive after intensive
- small to large (increasing range of movement)
- static to dynamic

c) Briefly collect some ideas verbally offered by the participants.

d) If there is the possibility to ask the participants to do assignments or project work, the preparation of an adequate “warm-up” training would be a good task.

4. Opinion on behaviour

Prepare a table or suitable graph on a flip chart for an opinion poll on the following questions:

- Do you regularly do a “warm-up”?
- Do you regularly do a “cool-down”?
- Do you do additional workout training?

Briefly ask all participants to come forward and mark the answer with dashes (see table p. 29).

Statement	Yes	No
Do you regularly do a “warm-up”?		
Do you regularly do a “cool-down”?		
Do you regularly do fitness training?		

5. Wandering questions: ‘What is what?’ and ‘How do you do that?’

a) Distribute as many cards (DIN A 6/DIN A 7) as there are participants. There’s a question on each card:

- What does “cool-down” mean to you?
- Which relaxation techniques do you know?
- What happens during a “warm-up”?
- Why do you do a “warm-up”?
- Why are regeneration and relaxation important?
- What does regeneration and relaxation mean to you?
- What do you do to relax?
- What exactly do you do during a “cool-down”?
- What belongs in a “warm-up”?
- What do you understand by a “pre-seasonal preparation”?
- Which forms of movement are suitable for a “pre-seasonal preparation”?
- Why do we need basic stamina?
- What do you understand by a “workout”?

Two participants ask each other the questions on the cards. After answering, the cards are swapped and the two partners turn to two other participants. This is done until each one has once asked and answered each question. This game should take no longer than 10 – to 12 minutes.

6. Presentation/ discussion and debate

Now present the recommendations for the still missing aspects (“cool-down”, “pre-seasonal preparation”, “regeneration and relaxation”, “workout”). Use the enclosed set of slides.

▶ Slides 6–9 of the slide set

7. How can we realise all that?

- Together with the participants, consider how these measures can be roughly integrated into the daily routine or a phase (e.g. a month). Use a wall newspaper in the form of a timetable in which you insert the above measures in different colours.
- Reflect on it or combine the results of this unit with the unit “time”). Discuss how to integrate stamina training, “warm-up” and so on into the daily routine.

8. Final remarks/feedback

a) Sort out the following:

- Are there any questions to any of the terms?
- Are all questions answered?
- Is there anything still unclear?

b) Initially, distribute the work sheet 'TOP 3 for 5'
and ask the participants to complete and retain it.

▶ Work sheet (Page 71)

Design of class or seminar

Procedure: deductive/inductive

	Work phase/contents	Method	Media	Duration: 90 minutes
1.	Welcome Introduction of the teacher Rules of the game Program outline/schedule	Presentation in full group session	Projector/laptop	3 minutes
2.	“Structure on education” a) Group work b) Reflection	Group work	Cards/wall newspaper Blackboard	10 minutes
3.	“Warm-up”	Presentation/ discussion and debate	Projector/laptop	15 minutes
	Break			5 minutes
4.	Participants' opinion on behaviour	In full group session	Flip chart Wall newspaper	7 minutes
5.	Wandering questions 'What is what?' and 'How do you do it?'	Group work	Cards	10 minutes
6.	Presentation of the remaining aspects	In full group session Presentation	Projector/laptop	20 minutes
7.	How can we realise all that?	In full group session	See above	10 minutes
8.	Final a) Remarks/feedback b) Questionnaire	In full group session	Work sheet	10 minuten

Required material

- flipchart paper
- pens
- fixing material
- projector and laptop (including power supply/multi-socket/extension)
- copies of work sheets/questionnaires
- cards (DIN A 6/DIN A 7)

Unit 8/9

...Stretching ...

Improving flexibility –
the ‘when, where, why, how and how not’



In dance, good flexibility is important. Regular stretching can improve, enable or help to maintain the range of motion and thus to execute dance-specific movements within the individual boundaries. Prerequisite is, however, to do them properly. There are various methods available for this purpose, each with respective advantages and disadvantages.

This teaching and seminar unit focuses on “stretching” as an important part of physical work in prospective musical theatre performers and dancers. In this unit, the participants will be enabled to reduce muscle injuries (primary prevention) and to enhance their performance (secondary prevention) by the combination of newly acquired knowledge and reflection on their own behavior.

Areas of expertise – professional competence

General objectives

The participants

- get to know and assess stretching methods and assess them,
- learn about the possibilities and limits of stretching.

Specific objectives

The participants

- learn the significance of muscle injuries,
- extend their knowledge on stretching methods,
- reflect on their own behaviour when stretching,
- learn and develop strategies that can contribute to their own protection against injuries,
- learn to use the newly acquired knowledge for their individual needs.

Areas of expertise – methodical competence

The participants

- discuss the pros and cons of stretching methods,
- provide transfer of knowledge,
- practise (presentation, discussion and debate) in full group session
- use group work.

Areas of expertise – social competence

The participants

- discuss their own results with others,
- develop strategies,
- work together as a team.

Outline

1. Welcome

- Welcome the participants and introduce yourself.
- Set rules (no mobile phones, break planning, dealing with spontaneous questions and so on).
- Present the contents.

2. Questions and more questions

- Ask the individual participants to write a question regarding the topic on a card which has previously been given out.
- Collect the cards.

3. Definition of stretching and stretching methods

This is followed by a discussion and debate in full group session and presentation. Ask the participants to name stretching methods. Initially, write them down one after the other unsorted and not structured on a wall newspaper.

In the presentation that follows, categorise the terms and methods. Develop a chart with all stretching methods. Use the background information to structure the methods.

Tick off the terms on the wall newspaper and check whether all terms have been assigned.

▶ Slides 2–4 of the slide set

4. True or false

- Distribute the work sheet with the statements on it and ask participants to estimate which of the statements are true or false.

▶ Work sheet 14 (Page 73)

- Create a small statistic (tally sheet) recording the participants' opinion on the blackboard/flip chart (first ask the participants to come forward and insert their results).
- Now go from statement to statement using your PowerPoint presentation.

▶ Slides 5–7 of the slide set

- Reflect on the statements and determine at the end,
 - whether the statements were correctly categorised by your participants,
 - whether there were deviations,
 - whether all questions have been answered.

5. Wandering questions

The wandering questions basically work as follows: Each participant is given a card with a question or statement on it. Two participants turn to one another and ask each other the question on the card. After the questions have been answered, they are swapped and the two turn to other participants to continue asking questions. This is repeated several times or until you have the impression that each participant has asked and answered each of the questions once and heard the answers to the questions. The newly acquired knowledge and the new ideas can now be used in the discussion and debate phase in full group session.

Distribute as many cards with questions as you have participants in that unit.

Examples:

- Which time of day is better suited for stretching?
The morning or the evening?
- Does it make sense to stretch as much as possible prior to a lesson?
- Is it possible to reduce/avoid muscle ache by stretching?
- Is it good to stretch right after class/lesson?
- Is it good to have a hot bath before stretching?
- Is it good to stretch directly before a jump combination?
- What is PNF?
- What is static stretching?
- What is dynamic stretching?
- What are the advantages of dynamic stretching?
- What are the disadvantages of dynamic stretching?
- Should I wear warm clothing when stretching?
- Should I go jogging for 10 minutes before stretching?
- Is it good to stretch in the evening before going to bed?
- Why can I stretch better after being on holidays?
- and so on

Use the “wandering questions” phase to collect the questions on the cards from the beginning of the unit and post them visibly.

6. Recommendations for stretching

Now develop the recommendations with the new knowledge on the basis of the presented methods 3 of 4 (true or false), which are then summarized by you in a brief presentation.

▶ Slides 8–10 of the slide set

7. Final remarks/feedback

- a) Reflect on the questions on the cards
- What topics were the questions on?
 - Have all questions been answered?
 - Is anything still unclear?
- b) Finally, distribute the work sheet “TOP 3 out of 5” and ask the participants to complete it and keep it for own purposes.

▶ Work sheet 15 (Page 74)

Design of class or seminar

Procedure: deductive/inductive

	Work phase/contents	Method	Media	Duration: 90 minutes
1.	Welcome Presentation of the teacher Rules of the game Program outline/schedule	In full group session Presentation	Projector/ laptop	5 minutes
2.	“Questions and further questions”	Individual work	Cards/wall newspaper blackboard	5 minutes
3.	“Definition and methods”	Presentation and discussion and debate	Wall newspaper/ projector/laptop	15 minutes
4.	“True or False” a) Work sheet b) Statistics/students’ opinion c) Presentation “checking” d) Reflection	In full group session	Work sheet/projector/ laptop	25 minutes
	Break			5 minutes
5.	“Wandering question”	Group work with discussion and debate	None	10 minutes
6.	Proper stretching in the musical theatre and dance category groups a) Development b) Presentation summary	In full group session Presentation	Projector/laptop	15 minutes
7.	Feedback – concluding remarks a) Checking on questions (2) b) Work sheet TOP 3	In full group session	None	10 minutes

Required material:

- flipchart paper
- pens
- fixing material
- projector and laptop (including power supply/multi-socket/extension)
- copies of work sheets/questionnaires
- wall newspaper or blackboard with chalk
- cards (DIN A 6/DIN A 7)

Unit 10/11

“Skin, hair and nails...”

Skin protection and care in the musical theatre and dance category groups



Vocational education also represents the beginning of a new phase of life (and thus a challenge) for the largest organ of the body, the skin, nails and hair.

This teaching or seminar unit is focused on the health for skin, nails and hair.

The participants should be motivated not only to deal with their own behaviour, but also to acquire knowledge that contributes to keeping their own skin healthy. That includes:

- the reflection on one's own behaviour patterns in dealing with the skin,
- the determination of one's own skin type,
- the acquisition of knowledge on typical problems in the musical theatre and dance category groups,
- the extension of knowledge on the prevention of skin problems, such as proper care.

Areas of expertise – professional competence

General objectives

The participants

- reflect on the organ “skin”,
- acquire knowledge on skin health maintenance and care.

Specific objectives

The participants

- reflect on their behaviour when dealing with the organ “skin”,
- name their own problems with the skin, hair and nails,
- determine their own skin type,
- define hazards associated with the occupation,
- get to know typical diseases and problems of the skin, hair and nails,
- learn and develop strategies that can contribute to the protection and improvement of the skin, hair and nails,
- learn to use the newly acquired knowledge for their individual needs.

Areas of expertise – methodical competence

The participants

- work individually (questionnaire with reflection),
- provide transfer of knowledge in determining the skin type,
- practice in full group session (presentation/ discussion and debate),
- use group work.

Areas of expertise – social competence

The participants

- discuss their individual results with others and develop strategies,
- cooperate in teams.

Outline

1. Welcome

- Welcome the participants and introduce yourself.
- Set rules (no mobile phones, break planning, dealing with spontaneous questions and so on).
- Present the topic of the unit.

2. “Skin care” questionnaire

- a) Start with the questionnaire and motivate the participants to briefly complete it

Please inform the participants beforehand that the questionnaire will NOT be collected!

▶ Work sheet 16: Questionnaire (Page 75)

- b) Create a statistic of the participants by selected questions that you determine beforehand. The following questions are particularly suitable for:

- existing skin problems,
- skin shave,
- skin care,
- summer/winter, stress/relaxation phases.

Reflect on the result:

- Did the participants imagine a result like this?
- What surprised the participants?
- What did the participants expect?

3. Discussion and debate on hazards by means of wall newspapers or group work without wall newspapers

Ask the participants in the full group session or in previously divided groups to identify potential risks to the skin resulting from education and occupation. Differentiate between “education” and “occupation” (e.g. two wall newspapers or corresponding columns or division). Collect the results.

- Are there any differences between training and occupation?
- Is there a rating? Is it getting better or worse?
- Are there any musical theatre and dance or educational contents that contain more or less dangers?

4. Skin presentation

- a) PowerPoint (!) – present the slides from your slide set that still seem relevant to you:

Structure of the skin

▶ Slides 1–3 slide set

- b) Determine the skin types in your group of two. Collect the results:

▶ Work sheet 18: “SkinSkin type” (Page 78)

How many skin types of each category do you have in the group?

c) PowerPoint (II) – present the relevant slides of the slide set:

- Typical skin problems in the musical theatre and dance category groups

▶ Slides 4–11 of the set of slides

Reflect on these contents with the statistical image of the selected questions of the questionnaire:

- Do the typical illnesses also occur in your group?
- If so, how often?

5. Prevention

First go back to the wall newspaper point 3.

In the discussion and debate phase in full group session, ask the participants to name other ways to minimize the risks. Insert them into the wall newspaper with a different color or into another column.

6. Summarizing presentation

PowerPoint (III) – briefly summarize what the right skin care should look like and what the participants should pay attention to from your set of slides.

▶ Slides 12–14 of the slide set

7. Questionnaire – reflection – outlook

Ask participants to take another look at their questionnaire and motivate them to choose the behaviors that could increase protection of skin and skin appendages.

8. Final remarks/feedback

Design of class or seminar

Procedure: deductive/inductive

	Work phase/contents	Method	Media	Duration: 90 minutes
1.	Welcome Presentation of the teacher Rules of the game Program outline/schedule	In full group session	Projector/laptop	5 minutes
2.	“Skin care questionnaire” a) Answers b) Participants’ statistic and reflection	Questionnaire	Wall newspaper/board	10 minutes
3.	“Occupational hazards”	Group work or discussion and debate in full group session	Flip chart/ wall newspaper	10 minutes
4.	Presentation “skin structure” a) Presentation b) Determination of skin types c) Presentation of skin problems with reflection to the questionnaire (2.)	Presentation in full group session group work (groups of two)	Projector/laptop	20 minutes
	Break			5 minutes
5.	Minimising hazards s. point 3.	Individual work Discussion and debate in full group session	If necessary, flip chart	15 minutes
6.	Presentation skin care and prevention	Presentation	Projector/laptop	20 minutes
7.	TOP 3 “What am I doing wrong and could do better”	Individual work	None	5 minutes
8.	Feedback – concluding remarks	In full group session	None	5 minutes

Required material:

- flip chart paper with holder
- pens/chalk
- fixing material
- projector and laptop (including power supply/multi-socket/extension)
- copies of work sheets/questionnaires

Unit 12

“Drinking instead of limping”

Drink properly – prevent injuries – live more healthily
(health care in the musical theatre and dance category
groups by healthy hydration)



Training causes physical activity levels to increase, and therefore the need for fluids in day-to-day life. Since the quantity of liquid depends on diet, physical activity and individual perspiration level, it is necessary for prospective artists to assess their individual needs and learn how to meet them with suitable liquids. This unit is designed to help participants scrutinize their individual drinking habits: How much do they drink throughout the day? Which drinks are chosen? Do they know the symptoms of water deficiency and what that means?

It is important for musical theatre and dance students

- to distinguish suitable beverages from unsuitable beverages,
- to optimize their drinking behavior.

In this teaching unit, the participants learn

- basics for the “right” drinking behaviour,
- to scrutinise their drinking habits.

Areas of expertise – professional competence

General objectives

The participants

- discuss the topic of “drinking right”.

Specific objectives

The participants learn to

- scrutinise their own behaviour patterns that may stand in the way of meeting liquid needs,
- know the meaning of liquid (water) for the body,
- identify inappropriate beverages,
- assess the impact of lack of water,
- find methods to estimate the daily drinking quantity,
- select proper food and know about its influence on fluid intake,
- manage liquid intake throughout the day.

Methodological competence

The participants reflect on positive and negative aspects of certain beverages and put their own drinking behavior on trial. They

- practise in full group session,
- learn methods for self-reflection.

Social competence

The participants

- process a task together,
- strengthen their ability to work in a team, to assess and to reflect

Outline

1. Welcome

- Welcome the participants and introduce yourself.
- Set rules (no mobile phones, planning of breaks, dealing with spontaneous questions etc).
- Introduce the subject.

2. Introduction/card survey

Divide the group into pairs. Hand out four moderation cards to each pair. Ask the participants to answer the questions on the cards briefly and spontaneously. The following questions are on the moderation cards (more questions can be added at any time):

- Why do I have to drink?
- What happens if I don't drink enough?
- What should I drink?
- How much should I drink?

3. Presentation: “Drinking properly”

Explain the significance of these questions in a brief presentation.

- ▶ See slide set “Drinking instead of limping” slides 1–7 of the slide set

4. Beverage selection

Apply what you have learned in full group session and discuss the choice of drinks and the intake of liquids by food items by using illustrations or empty bottles and so on.

5. Conclusion/feedback/flash light

Ask the participants about the TOP-3 statements of this teaching unit.

- What was good?
- Are there any more questions?
- Are there any suggestions?

6. Work sheet/transfer into day-to-day life – “Letter to myself”

Hand out sheets of paper, preferably in different colours, to the participants and motivate them to scrutinize their own drinking behaviour and to record possible wishes, outcomes and so on in form of a postcard sent to themselves

- ▶ Work sheet 18 (Page 79)

Design of class or seminar

Procedure: deductive/inductive

	Work phase/contents	Method	Media	Duration: 45 minutes
1.	Welcome Presentation of the teacher Schedule	Presentation	Projector/laptop	5 minutes
2.	Introduction/moderation card	In full group session Group work	Pin board/ moderation cards	10 minutes
3.	Presentation: “drinking properly”	Presentation/ discussion and debate	Projector/laptop	10 minutes
4.	Beverage selection	Discussion and debate	Illustrations/ empty bottles	10 minutes
5.	Conclusion/feedback/ evaluation	In full group session	See above	5 minutes
6.	Transfer to the day-to-day “Letter to myself”: What lessons do I draw from today’s topics?	Individual work	Sheets of paper	5 minutes

Required material:

- projector and laptop with power supply
- white sheets of paper
- flip chart with paper and pens
- postcards/cards
- pin board or wall including fixing material

Unit 13/14

“Through the day with the energy you need”

Assessing and covering energy needs
(health care in musical theatre and dance through
whole-food nutrition)



Nutrition plays an important role in the day-to-day life of musical performers and professional dancers, especially in times of high training intensity. In addition to the existing knowledge of nutrition, for example from their school days, most students have adopted a certain diet through their parental and family environment. However, when they start their professional education, this environment changes which also affects their eating habits.

It is important for musical theatre and dance students,

- to be able to determine their own energy needs,
- to reflect on their own diet with the help of nutritional recommendations,
- to be able to cover their energy needs.

In this teaching unit the participants will be motivated to deal with their own nutritional behaviour. That means:

- to question behavioural patterns that stand in the way of the implementation of a balanced whole-food diet,
- to identify dietary errors,
- to develop and adapt practical methods for the implementation of a healthy diet on the basis of the “Pas de deux”. Dance and healthy diet: 10 tips for dancers “daily life”.

Areas of expertise – professional competence

General objectives

The participants

- learn the basics of nutrition,
- get an overview of the possibilities to influence one’s own dietary behaviour.

Specific targets

The participants

- learn that a healthy and balanced diet is based on carbohydrates, fats and proteins as well as on vitamins and minerals,
- acquire knowledge to determine the individual energy and nutrient needs,
- learn to reflect on their own dietary behaviour (e.g. nutrition diary),
- learn measures in dealing with specific situations, for example dealing with cravings, planning snacks and so on.

Methodological competence

The participants

- use group work,
- learn in full group session,
- create their own nutrition diary/an overview of nutrient components,
- learn the basics of data research.

Social competence

The participants

- process different tasks together,
- strengthen their ability to work in a team and their ability to assess,
- improve their ability to reflect.

Outline

1. Welcome

Welcome the participants and introduce yourself.
Set rules (no mobile phones, planning breaks, dealing with spontaneous questions etc).
Present the topic.

2. Introduction

“Wandering Questions”

Prepare the following 20 questions on 20 large index cards (metaplan cards).

- What do you associate with food?
- How many meals do you eat a day?
- What are carbohydrates?
- What do you know about unsaturated fatty acids?
- Where do you find fats in food?
- Why does a performer/dancer need proteins?
- What food do you take with you for the day?
- What have you already eaten today?
- Why do some food items saturate better than others?
- What do you do when you're hungry?
- Which snacks are healthy and energizing?
- What kind of snacks do you take with you to auditions?
- What can you do if you get heavy, tired legs?
- Is vegetarian or vegan nutrition also suitable for performers?
- What is your experience with dietary supplements?
- Why can't one just eat when and what one wants?
- How is physical and mental fatigue related to diet?
- Which nutritional recommendations do you know and have already used?
- What is your favorite dish to get energy from?
- What can you do in case of stress to get enough energy?

These are questions asked by dancers in different situations. If you have questions of your own that you would like the prospective performers to work on, you can also exchange questions or limit the number of questions if the number of participants is lower.

Give each of the 20 participants a card with a question. The game begins with pair work. One member of the pair asks the question that is on the card and waits for the answer. Then the second member asks the question on his/her card. The two cards are then swapped. Then the two turn to the others to ask, answer and swap cards again. Thus, the questions move from one person to the next (wandering questions) until each of the participants has asked and answered all wandering questions. There may be further questions that need to be clarified. In addition, the participants get to know each other better, which promotes group dynamics.

Do not comment on the answers at this point as their function is to put participants in the right mood, to recognise their own previous knowledge and possible limitations.

Ask the participants to write down any questions coming up on cards. If necessary, attach these to a pin board and discuss them later. If you do not have a pin board available, the questions can also be recorded on a blackboard or sheets of paper for later use.

3. Presentation: “Through the day with the energy you need”

Briefly present the topics on energy needs and nutrition recommendations of performers.

▶ See slides 1–13 of the slide set

4. Practical exercises

a)

Partner work: energy needs

Individual work: nutrition diary

Group work: nutrition plan

Divide the learning group into pairs, for example by drawing lots. Distribute the work sheet “Nutrition diary of a dancer”. Each team should then work on the task at hand. The resulting discussions and questions of the team will then be discussed in full group session.

▶ Work sheet 19: “Nutrition diary of a dancer”
(Page 80)

Then distribute the work sheet ‘My nutrition diary’ to all participants and give them time to work on it (or as a task for home) and reflect. Participants should only think of a typical day when filling in the minutes. The results can be used to support the next part.

▶ Work sheet 20: “My nutrition diary”
(Page 82–89)

Divide the learning group into small groups and, using the information received, have the groups draw up their own diet plan for one day, covering as many important components of a balanced diet as possible.

b)

Group work: food components and recipe development

Ask the participants to divide into 4 small groups and assign a nutrient category to each working group. Hand out the work sheets. Explain the assignment and motivate the groups.

Walk around from group to group and give tips and make suggestions if necessary, especially to those groups that have problems understanding their task.

Do not comment any results of the work in groups at this point.

Allow 2–3 minutes for each group to present the results to the full class. Invite each member of the group to speak. Answer any questions arising in full group session.

With the help of the information received, ask each group to create a recipe which takes all food components into account.

▶ Work sheets 21–24: “Carbohydrates”, “Fats”, “Proteins” and “Micronutrients” (ff Page 81)

5. Conclusion/feedback/evaluation – “Counted on the fingers of one hand”

Ask the participants to answer the TOP-5 questions of this lesson.

- What was the best thing?
- What was the most instructive thing?
- What didn’t I like?
- What bothered me?
- What did I miss?

One sheet of paper each is now given to the participants. Each of them is asked to draw the contours of his/her hand on this sheet of paper and to write an answer to each question in the individual finger contours. Whether the answers are compared or discussed depends on the participants.

6. Reflection/flash light: nutrition diary – What lesson do I draw regarding my nutritional behaviour?

Give the participants time to review their own diary (option A)/recipe (option B) and to present the results of the reflection orally using the flash method. The latter is based on the fact that you ask the participants to answer the question ‘What lesson do I draw regarding my nutritional behaviour?’ A short time for reflection should be given (1 minute). Then each participant gives a quick answer (flash) in a predetermined order (4 minutes). This serves both for the participants’ own reflection and as feedback for the teacher.

At the end distribute the

▶ Work sheet 25: “List of technical terms”
(Page 90)

Design of class or seminar

Procedure: deductive/inductive

	Work phase/contents	Method	Media	Duration: 90 minutes
1.	Welcome Presentation of the teacher Rules of the game Program outline/schedule	Presentation	Projector/laptop	5 minutes
2.	Introduction/ “wandering question”	Group work	Pin board, metaplan cards	5 minutes
3.	Presentation: brief dietetics	Presentation/ discussion and debate	Projector/laptop	10 minutes
4a)	Energy needs	Partner work	Work sheet: energy needs	10 minutes
	Discussion of the results	In full group session	Pin board Flip chart/blackboard	5 minutes
	Individual work: nutrition diary	Individual work	Work sheet: dietary diary	10 minutes
	Break			5 minutes
	Draft diet plan for one day	Group work	Flip chart	15 minutes
	Presentation of the results	In full group session	Flip chart	15 minutes
4b)	Food components, explain the task, work phase	In full group session/ group work	Work sheets	15 minutes
	Break			5 minutes
	Food components	Group work (incl. creation of the presentation on a pin board or flip chart)	Pin board or flip chart with paper	10 minutes
	Discussion of the results	In full group session	See above	10 minutes
	Creating a draft recipe for a meal	Group work	Flip chart	10 minutes
	Presentation of the results in full group session	In full group session	See above	10 minutes
5.	Conclusion/feedback/ evaluation – “5 fingers of one hand”	Individual work	White sheets	5 minutes
6.	Flash light – “What was of benefit for me today?”	In full group session		5 minutes

Note: 4a or 4b are done alternatively.

Required material:

- projector and laptop with power supply
- white sheets of paper
- flip chart with paper and pens
- postcards/cards
- pin board or a wall including fixing material

Unit 15

“From theory to practice”

Summary: Applied self-care in musical theatre and dance



The focus of this final lesson is to convert theory into practice. In other words to make the knowledge acquired to date even more usable by means of even more examples for one's own self-care.

In this final unit, the participants will be motivated to realize self-care measures and make them convertible on the basis of a practical example.

Areas of expertise – professional competence

General objectives

The participants

- reflect on education-related requirements,
- realise and identify hazards,
- develop measures to deal with hazards.

Specific objectives

The participants

- name physical and psychosocial (also as mixed forms) requirements using the current example, and differentiate between them (U 1/2),
- determine existing workplace and activity-related hazards (endogenous, exogenous) in the example,
- develop prophylactic measures for behavioural and environmental preventive health approaches on the basis of the current example,
- learn to use the knowledge acquired to date for their individual needs.

Methodical competence

The participants

- work in groups (wall newspaper),
- practice (discussion and debate) in full group session,
- learn to do research.

Areas of expertise – social competence

The participants

- discuss their own results with others and develop strategies,
- work together as a team.

Outline

1. Welcome

- Welcome the participants and introduce yourself.
- Set rules (no mobile phones, break planning, dealing with spontaneous questions and so on).
- Present the topic.

2. “Taken from stage life”

- Initially repeat the terms behavioural and environmental preventive health approaches and give examples.
- Distribute the example. This can be a (coloured) copied image or an image that you project onto the wall. However, the illustration should also be available to the participants as a working copy.
- Divide participants into groups and distribute tasks.
 - One/two/three/... (depending on group size) groups work on the aspects of **behavioural prevention** of the example.
 - One/two/three/... (depending on group size) groups work on the aspects of **environmental preventive health approaches** of the example.

Now ask the groups to work on the example according to the following scheme (for example, in table or mind map form):

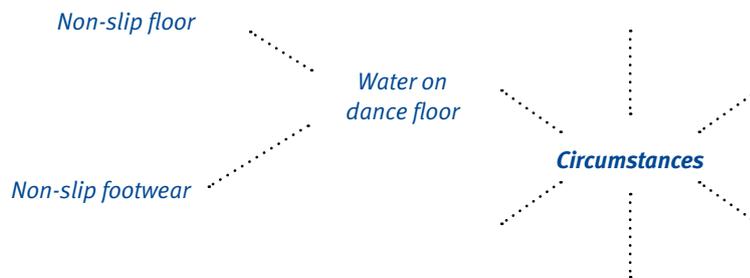
Handling examples for the groups

a) in tabular form:

Hazard	Through...	Prevention/measure	
		Environmental preventive health approaches (groups)	Behavioural prevention (groups)
For example: water on dance floor	Slipping	– Non-slip floor	– Distance
		– Non-slip shoes	– Slow movements

b) as mindmap:

Group: environmental prevention



Present both methods briefly and then let the participants work with flipchart paper (or paper hanging at various points in the room). Go around, answer questions and provide assistance if needed.

3. Grand finale

Place the wall newspapers centrally and discuss the results:

- Are there any differences?
- Are important measures missing?

Add any information which in your opinion seems to be missing and briefly recapitulate what should be done in the event of a visible hazard (e.g. inadequate adhesion of the floor).

Reflect once again on what action should be taken in case of an accident.

4. Final remarks/feedback

If there is time left in this unit, summarize the entire teaching syllabus in the feedback:

- What was best?
- What do you remember?
- What has possibly already been implemented?
- What was missing?
- What can be improved?

You can make this easier by asking your participants to spontaneously find a symbol, an object or a picture that they would use to describe the whole syllabus. An exercise with partners can be helpful here if there is sufficient time left.

Design of class or seminar

Procedure: deductive/inductive

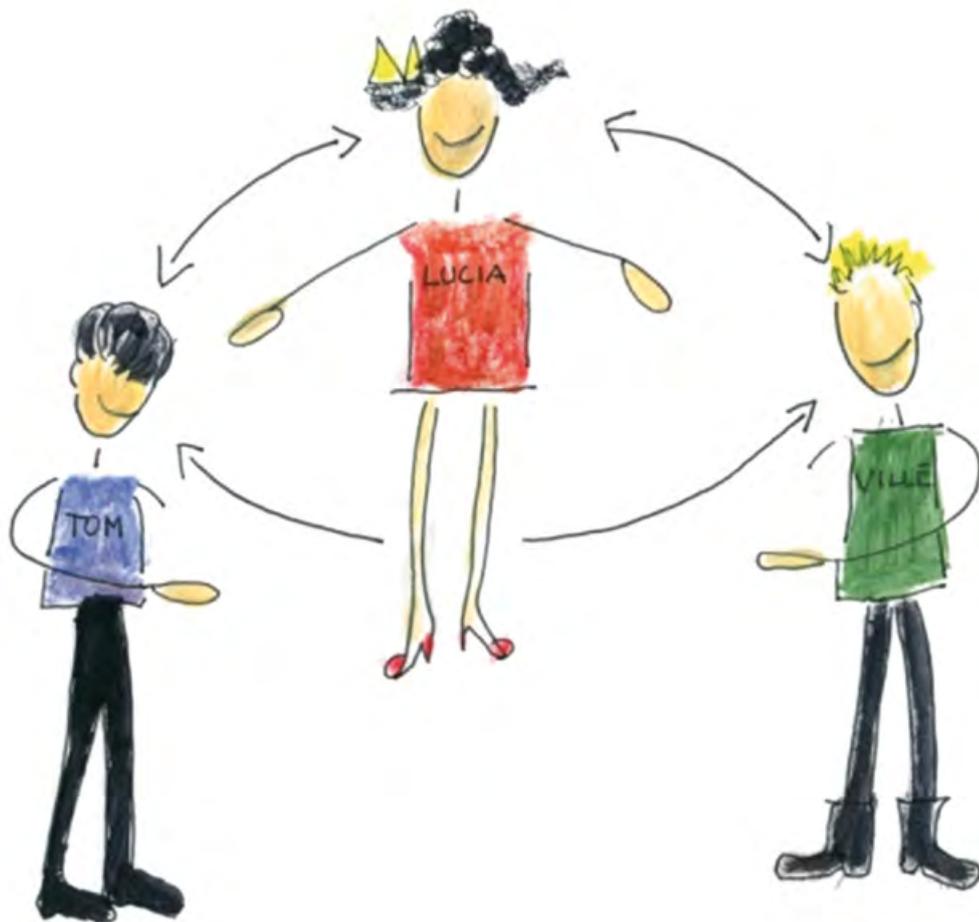
	Work phase/contents	Method	Media	Duration: 45 minutes
1.	Welcome Presentation of the teacher Rules of the game Program outline/schedule	Presentation in full group session	Projector/ laptop	2 minutes
2.	“Taken from stage life” a) repetition of the terms and b) and c) introduction to group work	In full group session Group work	Projector/laptop if applicable Coloured copies/ copies Flip chart paper	5 minutes (a) 20 minutes (b)
3.	The grand finale	Group work/ discussion and debate	Flip chart/ wall newspaper	15 minutes
4.	Concluding remarks/feedback, if applicable	In full group session	None	3 minutes

Required material:

- projector/laptop with power supply (multiple socket, extension if necessary)
- flip chart paper with pens, fixing material for wall newspapers
- work sheets/copies

Unit 1–15 (15+)

Reflection on the entire syllabus



If time resources are still available, such as in the 15th U or as part of an increase in the number of hours, a reflection of the entire syllabus is a good option.

This can be done in a playful way as follows:

5 persons

(modified after Ritter-Mamczek & Lederer 2012)

The five people are:

1. A friend who is at another educational school
2. The mother
3. The grandmother who finances part of the education
4. A competitor who has snatched an engagement from you at a casting
5. Your best friend

Specify the individual persons one after the other:
Start with person 1.

The participants should now imagine that their neighbour is person 1. What would you tell him or her what was beneficial for you in this seminar? Now exchange ideas with your neighbour by changing roles in a murmur round (2 min). Change your partners. Then go to person 2, 3, 4 and 5. You will see how this results in different perspectives as to things that were good, not so good, important and so on for you in the seminar.

References

Bettina Ritter-Mamczek, Andrea Lederer: 22 splendid Ideen. splendid-akademie. Berlin: 2012.

3 Prerequisite terms and contents

The following list does not make the claim to be complete. It serves rather to check already existing knowledge or get ideas for further learning contents, for example for self-study.

- Agonist - antagonist (musculature)
- Anaerobic and aerobic energy metabolism
- Protein (structure)
- Fats(Structure)
- Joint structure
 - bones
 - tendons
 - bursa
 - synovial fluid (synovia)
 - joint capsule
 - band structures
- Cardiovascular system
 - constituents
 - function
 - changes during physical loads
- Carbohydrates (structure)
- Basic motoric characteristics
 - Definitions of ...
 - stamina
 - flexibility
 - power
 - strength stamina
 - speed strength
 - speed
 - coordination
- Muscle building
 - muscle stomach
 - muscle insertion
 - muscle fiber
 - muscle fibril
 - contractile filaments
- Muscle contracture (sequence)
- Sore muscles (cause)
- Muscle groups (important, e.g. thigh muscles)

4 Work sheets

Introduction – “warm-up”

Challenges – biorhythm – insurance system

Work sheet

“Morning Grouchy?”

Grouchy in the morning or exhausted in the evening? – What type are you?

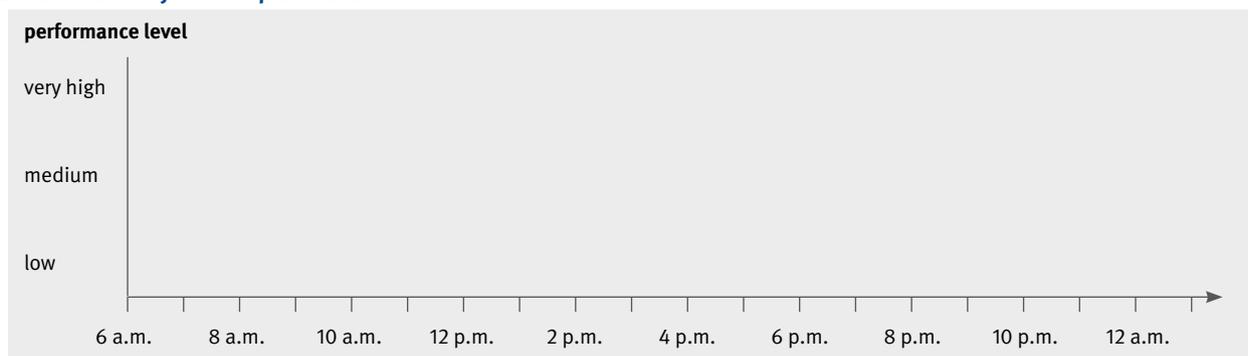
Please complete the following tasks and then discuss them in full group session.
Observe yourself closely and take notes:

1. When are you particularly efficient?

(for example morning – evening – time of day – time periods)

2. When do you find yourself in a performance low?

3. Draw a curve of your own performance!



4. Now determine whether you are a morning or evening type.

5. Choose a different colour and draw the optimal performance curve for your education. However, consider that there cannot only be highs – there must be lows as well.

6. Do the two curves coincide? Where are the differences, where are the things in common?

Introduction – “warm-up”

Challenges – biorhythm – insurance system

Work sheet

Case study ‘Lucia’

Lucia

Lucia has had an exhausting day of education. Strenuous, but also successful, because for the first time her singing teacher was very satisfied with her performance. Lucia lives far away from her educational arts school. It takes her 45 minutes back and forth either way per tube (subway, metro, U-Bahn) every day. It's 17:30 hrs. She's on her way home looking forward to celebrating Ville's birthday. After getting out of the tube, she remembers that she is out of Parmesan cheese and tomatoes. She had offered to bring the main course, a pasta casserole for Ville's birthday. Therefore, instead of walking directly home, she makes a detour to a supermarket in the vicinity of her home. In the entrance area she stumbles, falls and breaks her right wrist ...

Please discuss the following questions:

- Is that a work-related or commuting accident?

Give reasons for your decision.

Introduction – “warm-up”

Challenges – biorhythm – insurance system

Work sheet

Case study ‘Tom’

Tom

Tom is in his fourth semester to become a professional dancer. It's May and very warm outside. That's why he decided to ride to school by bike. At the crossing between Obern- and Schluchtstraße there is a tram crossing. When turning into Obernstraße someone suddenly calls Tom's name. He turns his head around. There is Lucia and waves. He waves back. Simultaneously the front tyre of his bike is caught by a tram track and Tom falls. His right ankle joint is twisted and hurts. Passers-by give him a hand and offer to take him to hospital. He refuses and rides in pain to the education arts school. During jazz lessons his ankle swells and the pain becomes worse. He can barely walk.

Please answer the following questions:

- What should Tom do right now?
- Is that a statutory accident event?
- What could Tom have done better?

Give reasons for your decision.

Introduction – “warm-up”

Challenges – biorhythm – insurance system

Work sheet

Check-up – statutory accident insurance in Germany

Please answer the following questions and give reasons for your answers:

1. What should be done after an accident during class/training at the educational institution?

- a) Complete your class/training to the end, then see your family doctor.
- b) Discontinue class/training, if applicable, and see an accident insurance consultant.
- c) Complete units and see an accident insurance consultant the following day.

2. Accident insurance consultants

- a) are only entitled to treat musical performers, professional dancers and their relatives.
- b) may not leave their patients waiting for more than 20 minutes.
- c) may treat occupational accidents.

3. Accidents at work only need to be reported

- a) if they occur before 08.00 and after 17.00 hours.
- b) if you are to be blamed for the accident.
- c) if the dance partner is to be blamed for the accident.
- d) accidents at work must always be reported.

4. On the way from your front door at home to the educational institution

- a) one is insured.
- b) one is not insured.
- c) one is only insured if one uses public transport.
- d) one is only insured if one is of age.

5. Who pays the statutory accident insurance?

- a) The educational institution
- b) Your parents
- c) Your health insurance fund

Source: Modified according to: DGUV Lernen und Gesundheit, Arbeitsunfall, February 2012 Baader A und Albert G.
Access under: <http://www.dguv.lug.de/arbeitsunfall.php?sid=52848579185120068645123822384870>

“In search of the 25th hour”

Plan effectively – save time – live healthier (health care in musical theatre and dance through time management)

Work sheet

“Time thieves”

Please answer the following statements spontaneously:

Work activity	Yes	No
I check my e-mails several times a day.		
I put off unpleasant work.		
I can't say 'NO' very well.		
I'm not very good at setting goals.		
I always try to do a lot of things simultaneously.		
My desk isn't well tidied up.		
I tend to hurry or be impatient.		
I can't make decisions easily.		
I like to work spontaneously.		
I don't make plans.		
Total amount		

Count how many times you answered 'yes' or 'no'.

How would you interpret the answers in terms of good time management?

“In search of the 25th hour”

Plan effectively – save time – live healthier (health care in musical theatre and dance through time management)

Work sheet

Findings

What in the unit is of benefit for me?

What were the 3 most important findings for me today?

1.
2.
3.

Am I going to change anything?

If so, what?

.....
.....

If not, why not?

.....
.....

“In search of the 25th hour”

Plan effectively – save time – live healthier (health care in musical theatre and dance through time management)

Work sheet

Where's Tom?

It's 09:10 hrs. Lessons started at 08.30 a.m. with a “warm-up” – actually for everyone. However, Tom wasn't there, oh no, not this again! Lucia rolls her eyes. That is a behavior she knows from Tom. Ballet class starts at 09:15. There, Tom's coming around the corner. He mumbles something about ‘... Jeans not quite dry yet, no milk left ... and without my white the day doesn't start for me ...’ Finally on his way to school he noticed he had forgotten his subway ticket at home. It's ballet class and Tom moans and tortures himself through the exercises. He wears socks because his ballet shoes are probably at home – again. He has problems remembering the exercises, his feet hurt and his socks are slippery. After the ballet lesson, he drops onto a seat outside and is looking for his water bottle in his backpack. Lucia, sitting next to him, offers him a water bottle and says: ‘Well, let's put it this way, dear Tom, your mom can't help you. She lives too far away. At that, you don't have any staff to make your life easier. It's time to face your worst enemy, the chaos. Why don't you ...’

Please answer the following questions

- What good advice is she giving him?
- If he follows her advice, what effects could it have?

“In search of the 25th hour”

Plan effectively – save time – live healthier (health care in musical theatre and dance through time management)

Work sheet

Ask “I can help Ville”

Ville is in his fifth semester at a musical theatre school. He is very popular with his fellow students, is the speaker of the year and also involved in voluntary work. In a senior residence, for instance, he offers tango classes for the residents. Ville comes from Finland. Every day his little sister Ainikki calls him when he is in the tram back and forth to school. She misses him a lot.

Ville just got out of jazz class. It's lunch break now, and he's on his way to the canteen. Lucia from the second semester is waiting for him here. She's waving. Ville quickly gets himself a salad and a baguette and sits down at her table. For Lucia, jazz dance is pure horror. She asks him to go over a few steps with her. Ville pushes his salad aside and they go into the entrance hall and try some steps together. This takes longer than expected. His phone rings as well: his sister Ainikki is heartbroken. He tries to comfort her. Then a look at the clock, his bitten baguette ends up in the trash. Just a quick sip from the water bottle and off into the next class “vocal training”. He's too late. Actually, he wanted to adjust for this one-to-one lesson. There wasn't time. The teacher is not at all pleased. Neither is Ville.

It's 17:00 hours now and Ville's is on his way home. Ainikki phones to let him know that she met a really cute boy. Ville takes a shower, changes clothes and calls Lucia on his way to his part-time job in a café. Her jazz dance class went well she tells him and thanks him again. The café's is crowded with people. That's the way Ville likes it. At 01:00 at night he falls exhausted into bed. ‘Well, I had better sleep fast now,’ he thinks. The next working day starts at 08:00 hours as usual.

Please answer the following questions:

- What's striking about Ville's behavior?
- What could he change?

“In search of the 25th hour”

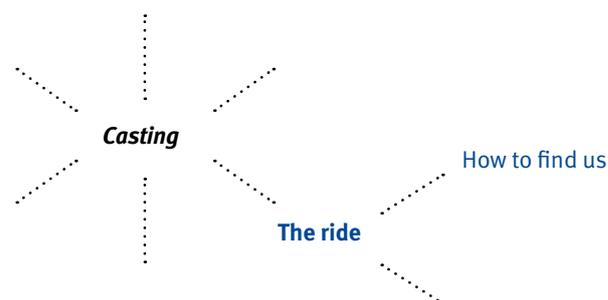
Plan effectively – save time – live healthier (health care in musical theatre and dance through time management)

Work sheet

Planning an event by using mindmapping

Example: You intend to take part in an audition or casting session. The mind mapping method should be used for planning that.

The key term – *Casting* – is written in the middle of the sheet. On this basis, the main task areas are marked as main branches. For the key term “Casting”, for example, the main branches could be “The ride”, “program” and others. Smaller branches lead away from the main branches for subordinate tasks resulting from the main branches. All of this results in a kind of scaffolding or tree that appears even clearer when different colours are used for the different types of branches. Try it. And ... enjoy your casting session



“In search of the 25th hour”

Plan effectively – save time – live healthier (health care in musical theatre and dance through time management)

Work sheet

Planning an event using mind mapping

Example: An “open day” takes place at your educational institution. After this ended in organizational chaos last year, because either things were duplicated or not at all available, everything will be much better this year. Therefore, you were assigned to take over the planning with your team. Use the mind mapping method for planning.

For this purpose, the key term “Open day” is written in the middle of the page. On this basis the main task areas are marked as main branches, for example for the “Open day” the main branches could be “Meals/Catering”, “program” and others. Smaller branches lead away from the main branches for subordinate tasks resulting from the main branches. All of this results in a kind of scaffolding or tree that appears even clearer when different colours are used for the different types of branches. Try it. And ... enjoy your well planned „open day“.



“When the floor is too slippery and the costume too long”

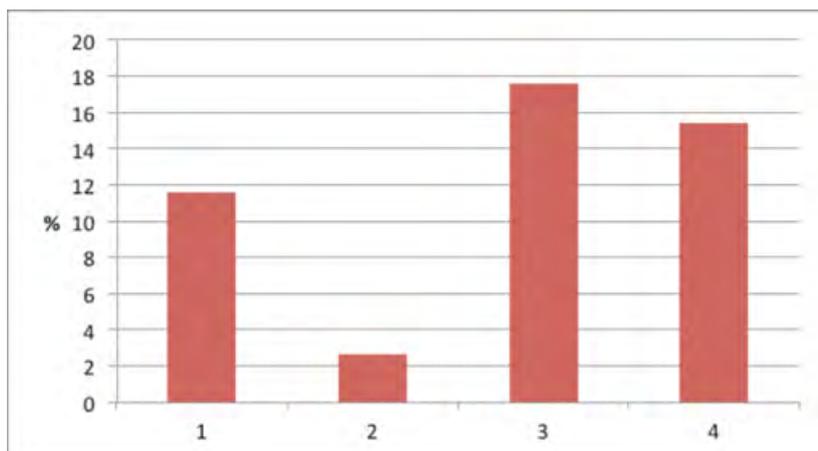
Hazards in musical theatre and dance

Work sheet

Hazards – acute injuries

Title of the illustration below: Exogenous hazards in musical theatre performers and professional dancers. Findings of an evaluation of occupational accidents (*according to Wanke et al. 2011*)

- Please allocate exogenous hazards to the columns.
- Give reasons for your allocations
- Choose from the exogenous hazards:
 - dance partner(s)
 - dance floor
 - props
 - costume



Source: Wanke EM, Kunath EK, Koch F, Davenport J, Weisser B, Groneberg DA, Mache S, Endres E, Vitzthum K. Survey of health problems in musical theater students: a pilot study. *Med Probl Perform Art* 2012 Dec; 27(4): 205-11.

“When the floor is too slippery and the costume too long”

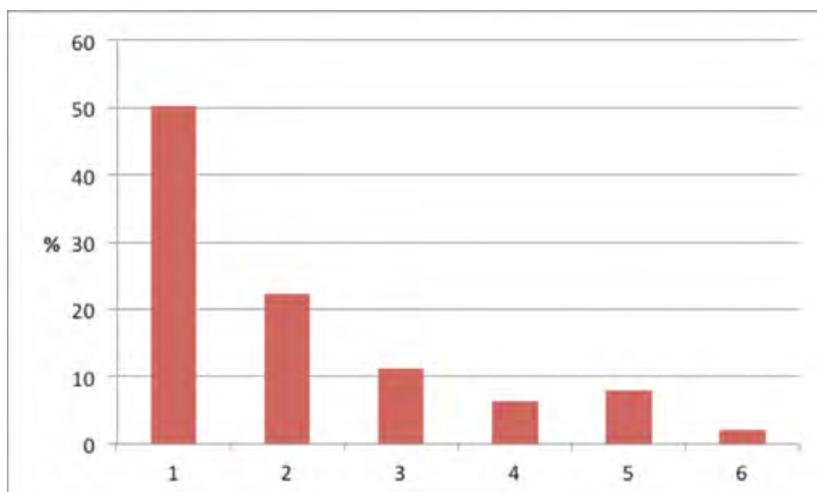
Hazards in musical theatre and dance

Work sheet

Hazards – chronic damage caused by faulty use and overuse

Title of the illustration below: Causes of chronic damage caused by faulty loading and overloading as well as illnesses in prospective musical performers and professional dancers – Findings of an evaluation (according to Wanke et al. 2012).

- Please allocate the causes to the columns
- Give reasons for your allocations
- Please consider that these findings are a subjective assessment of prospective musical performers and dancers.
- Choose from the following causes:
 - benefit entitlement/your expectations as to performance
 - temperature/floor
 - overload/fatigue/stress
 - ignoring warning signals
 - inadequate fitness
 - nutritional/drinking behaviour



Source: Wanke EM, Kunath EK, Koch F, Davenport J, Weisser B, Groneberg DA, Mache S, Endres E, Vitzthum K. Survey of health problems in musical theater students: a pilot study. *Med Probl Perform Art* 2012 Dec; 27(4): 205-11.

“When the heart is pounding like mad”

Change behaviour – become more efficient

Work sheet

“TOP 3 in 5”

What was of benefit for me in this seminar?

What were the 3 most important results for me today on...?

1. Warm-up:

- 1.
- 2.
- 3.

What will I change?
.....

2. Pre-seasonal preparation for training:

- 1.
- 2.
- 3.

What will I change?
.....

3. Cool-down

- 1.
- 2.
- 3.

What will I change?

.....

4. Regeneration and Relaxation:

- 1.
- 2.
- 3.

What will I change?

.....

5. Workout:

- 1.
- 2.
- 3.

What will I change?

.....

Stretching –

Improving flexibility – when, where, why, how and how not in musical theatre and dance

Work sheet

“True or false”

Please assess the following statements spontaneously and decide whether they are true or false.

Statement	True	Partly correct	False	Do not know/not answered
There is one method of stretching which is THE BEST				
The best stretching method is:				
• dynamic stretching – “bouncing”				
• static stretching – “stretching”				
• “PNF”				
Everyone can be stretched the same way. Some just have to work harder than others.				
Stretching enhances my performance during jumps.				
Stretching improves the blood supply to the muscles.				
Maximum stretching is a good injury prophylaxis.				
Intensive stretching reduces muscle soreness.				
Intensive stretching enhances regeneration.				

Stretching

Improving flexibility – when, where, why, how and how not in musical theatre and dance

Work sheet:

TOP 3

What was of benefit for me in the today's seminar?

What were the 3 most important results for me today?

- 1.
- 2.
- 3.

Am I going to change anything?

If so, what?

.....
.....

Skin, hair and nails

Skin protection and care in musical theatre and dance

Work sheet

Questionnaire “Skin care”

(modified after Wanke et al., 2015, unpublished)

Please answer the following questions:

Substance use

Do you smoke?	<input type="checkbox"/> yes	<input type="checkbox"/> no
Do you drink alcohol?	<input type="checkbox"/> yes	<input type="checkbox"/> no

Skin diseases

Do you have skin diseases?	<input type="checkbox"/> yes	<input type="checkbox"/> no
If so, which ones		
<input type="radio"/> acne	<input type="radio"/> psoriasis	<input type="radio"/> herpes simplex
<input type="radio"/> neurodermatitis	<input type="radio"/> fungal diseases	<input type="radio"/> others:
Do you have any allergies or intolerances?	<input type="checkbox"/> yes	<input type="checkbox"/> no

Skin care behaviour (face)

How often do you wash your face a day?		
What do you wash your face with? (Please tick the appropriate box, multiple answers possible)		
<input type="radio"/> water	<input type="radio"/> cleansing foam	<input type="radio"/> cleansing oil
<input type="radio"/> soap	<input type="radio"/> cleansing milk	<input type="radio"/> others (please specify!):
Do you use a face cream?	<input type="checkbox"/> yes	<input type="checkbox"/> no
Is this face cream pH skin neutral (pH 5.5)?	<input type="checkbox"/> yes	<input type="checkbox"/> no
Is the face cream silicone-free?	<input type="checkbox"/> yes	<input type="checkbox"/> no

Skin and hair care behaviour			
How often do you take a shower during the week?			
How many minutes do you shower on average?			
At what average temperature do you shower?			
<input type="radio"/> only cold	<input type="radio"/> lukewarm	<input type="radio"/> warm	<input type="radio"/> very warm/hot
How many minutes elapse between training and showers?			
Which of the following care products do you use <i>when</i> taking a shower? (Please tick the appropriate box, multiple answers possible)			
<input type="radio"/> shampoo	<input type="radio"/> hair conditioner	<input type="radio"/> others:	
<input type="radio"/> shower gel	<input type="radio"/> hair treatment		
Which of the following products do you use <i>after</i> taking a shower? (Please tick the appropriate box, multiple answers possible)			
<input type="radio"/> body lotion	<input type="radio"/> deodorant	<input type="radio"/> nothing	
<input type="radio"/> perfume	<input type="radio"/> hair gel/spray		
Do you always remove your make up carefully?		<input type="checkbox"/> yes	<input type="checkbox"/> no
How do you style your hair in day-to-day life? (<i>day-to-day life without training</i>) (Please tick the appropriate box, multiple answers possible)			
<input type="radio"/> blow-drying	<input type="radio"/> air drying	<input type="radio"/> others:	
<input type="radio"/> straightening or curling tongs			
How do you wear your hair during training/rehearsals? (Please tick the appropriate box, multiple answers possible)			
<input type="radio"/> open	<input type="radio"/> ponytail	<input type="radio"/> others:	
<input type="radio"/> bun	<input type="radio"/> braided/put-up hairstyler		
Depilation			
How do you remove unwanted hair from the body? (Please tick the appropriate box, multiple answers possible)			
<input type="radio"/> dry shave	<input type="radio"/> waxing/sugaring	<input type="radio"/> epilating	<input type="radio"/> others
<input type="radio"/> wet shave <i>with</i> shaving foam/gel	<input type="radio"/> wave <i>without</i> shaving foam/gel	<input type="radio"/> laser	
Do inflammations occur after hair removal?		<input type="checkbox"/> yes	<input type="checkbox"/> no

Skin condition**How would you describe your skin at present?** (multiple answers possible)

<input type="radio"/> normal	<input type="radio"/> dry and oily	<input type="radio"/> large-pored	<input type="radio"/> reddened
<input type="radio"/> dry (often tight)	<input type="radio"/> cheeks are dry	<input type="radio"/> blemished	<input type="radio"/> sensitive
<input type="radio"/> bold glossy	<input type="radio"/> fine-pored		

Are you aware of the following skin problems? (multiple answers possible)

<input type="radio"/> reddening of the skin	<input type="radio"/> oily skin	<input type="radio"/> wounds, open wounds
<input type="radio"/> sheds	<input type="radio"/> dry skin	<input type="radio"/> other anomalies:
<input type="radio"/> heavy sweating	<input type="radio"/> itching	

Do skin problems get better (+) or worse (-) or do they not change (0) under the following conditions?

warmth	+	-	0	stress	+	-	0	spring	+	-	0	autumn	+	-	0
cold	+	-	0	resting phases	+	-	0	summer	+	-	0	winter	+	-	0
frequent make-up (e.g. for performances)									+	-	0				

Which food items reduce your skin problems?

--

Which food items worsen your skin problems?

--

Hair condition**How would you describe your hair?** (multiple answers possible)

<input type="radio"/> dry	<input type="radio"/> fragile	<input type="radio"/> others:
<input type="radio"/> oily	<input type="radio"/> healthy	

Hands**How would you describe your fingernails?** (multiple answers possible)

<input type="radio"/> healthy	<input type="radio"/> rutted/ridged	<input type="radio"/> others:
<input type="radio"/> fragile		

Do you have one or more of the following problems? (multiple answers possible)

<input type="radio"/> ingrown fingernails	<input type="radio"/> nail fungus	<input type="radio"/> others:
<input type="radio"/> torn fingernails		

Feet**Do you suffer from pressure marks or blisters?** yes no**What do you do to prevent pressure marks/blisters?** (multiple answers possible)

<input type="radio"/> taping	<input type="radio"/> pressure relief pads	<input type="radio"/> others:
<input type="radio"/> cotton pads		

Skin, hair and nails

Skin protection and care in musical theatre and dance

Work sheet

'What kind of skin type am I?' – Skin types

There are different skin types that show different reaction to UV radiation.

Please allocate yourself to a skin type.

Please allocate your neighbour to a skin type, too.

How would you describe your natural skin type? (Please tick the appropriate box)		My skin type	My neighbour's skin type
Type 1	very light skin colour, reddish/light fair hair, no tanning, freckles		
Type 2	light skin colour, fair/light brown/brown hair, slow tanning		
Type 3	medium skin colour, brown (fair/black) hair, progressive tanning		
Type 4	brownish/olive skin, brown hair, quick tanning		
Type 5	dark skin, black hair		

What consequences does this classification have for skin care?

“Drinking instead of limping”

Drink properly – prevent injuries – live more healthily

Work sheet

“A letter to myself”

Briefly describe in a letter/card addressed to yourself

- what your drinking behavior actually is like,
- what lessons you learnt,
- what you would like to change.

A large rectangular box for writing a letter to oneself. It features a vertical line on the left side, a dashed rectangular box in the top right corner for an address, and four horizontal lines on the right side for writing.

“Nutrition Diary of a Dancer”

My nutrition diary | Dancer in a company | Day of week: Tuesday | Assumption: energy expenditure 2000 kcal

Time	FOOD ITEMS		Portions ²	LIQUIDS		NOTES	ACTIVITY
	Grams/ Portions ¹	Type		kcal ³	Type		
7.30			1	Coffee with milk	48	few pangs of	
9.00	0,5	Croissant				hunger while walking	
10.00							Ballet
11.30							
11.45			2	Mineral water, still	0		
	1	APPLE					
	2	Natural rice wafers					Break
	0,5	Avocado					
12.00						standing, while stretching	
	1	Banana				feeling of faintness	Rehearsal
15.00			1	Mineral water, still	0		
			2	Diet coke	0		
	1	Salad, mixed					
		with Ioghurt-Dressing					
		Balisto, chocolate bar					Break
18.00			1	Coffee with milk	48		
20.00	1	Sandwich with	2	Herbal tea	0	eating very fast	Stage rehearsal
		cheese and salami	1	Fruit juice	97	stomach pain	
22.00							
	1	Rice cracker, crisp bread					
		with cottage cheese				feeling hungry, fatigue	Finish

¹ Portion = 1 hand full | ² 1 Portion = 200 ml Glas or cup | ³ Information according to <http://fddb.info/>

Look at this dietary diary of a dancer. Calculate the daily energy intake and evaluate it in the group. Also discuss the type of food/beverages intake with the background information you have received. Finally, take a look at the notes the dancer wrote.

“Through the day with energy”

Healthy nutrition

Work sheet

Carbohydrates and dietary fibers

Please read the following text on carbohydrates. Then answer the following questions:

- Which food items contain carbohydrates? (simple, complex)
- Which type of carbohydrates is particularly suitable to cover the carbohydrate requirements?
- Can you think of other food items not listed here?

Then write the most important information from the text and your considerations on a pin board/flip chart. Introduce them now. If necessary, look up unknown terms in the material provided.

Carbohydrates

What are carbohydrates?

Carbohydrates are a chemical compound of the elements carbon, hydrogen and oxygen. They correspond to 4 kcal of energy per gram. They are the most important and most efficient sources of energy for intensive, short and medium-term stress as well as for regeneration after physical loads.

Carbohydrates are found in food in simple (e.g. glucose, fructose) and complex structures (e.g. starch). One also speaks of simple sugars (monosaccharides) with glucose or fructose, double sugars (disaccharides) with sucrose (beet sugar) or lactose (milk sugar) and multiple sugars (polysaccharides) with glycogen or starch. Simple and double sugars can be found in fruit, honey or dairy products. Multiple sugars are found in the form of glycogen as a carbohydrate store in the human body, as starch, for example in potatoes, or cellulose, for example in cereals. Multiple sugars are broken down into simple sugars in the body. This means they get into the blood slower than monosaccharides/simple sugars. This has a positive effect on the blood sugar level, which remains constant over a longer period of time. Simple and double sugars, on the other hand, enter the blood more quickly, provide energy more quickly and also cause a rapid drop in blood sugar levels.

What do I need carbohydrates for?

A very low blood sugar level is often characterised by poor concentration, poor circulation and sweating. The reason for this is that brain and nerve cells lack glucose because they depend on the supply of glucose. Adults convert at least 180 g glucose per day, of which the brain needs about 140 g glucose. In contrast to fats, however, the storage capacity of carbohydrates in the body is limited. In the form of glycogen, carbohydrates can only be stored in the muscles and liver. Thus about 400 kcal are present in the liver and about 1200 kcal in the muscles. Well-filled glycogen depots are essential for students of musical theatre and dance. The better the supply of carbohydrates, the longer the blood sugar level can be maintained and the time of fatigue can be delayed during physical loads. If the glycogen stores are emptied through intensive training, replenishment can take up to 48 hours. Therefore, regular regeneration phases, for example sufficient sleep, as well as a supply of carbohydrates, are indispensable.

When do I eat carbohydrates?

In addition to the main meals, carbohydrates are also to be added before, during and after physical loads. The aim is to meet the performance requirement with optimally filled glycogen stores. Therefore, a carbohydrate-rich snack should be eaten approximately 30 minutes to two hours before the load. During exercise, the muscle glycogen stores are used to supply carbohydrates. As the glycogen stores are exhausted after one to two hours, carbohydrates should be absorbed during long periods of stress, especially at high intensity, but at the latest afterwards 1 g/kg body weight of carbohydrates.

Within the first one to two hours after physical loads, the top priority is to replenish the glycogen stores. Glycogen build-up and storage are at their most efficient immediately after training.

What is fibre?

The recommended intake of carbohydrates (percentage of > 50 % of the energy supply per day) should mainly be covered by complex carbohydrates (polysaccharides), i.e. food items rich in fibre, which are components of plant-based foods that are (not or only partially) degradable in the human digestive tract and thus contribute no or only a low energetic value, such as the above-mentioned cellulose. Whole-grain products as well as fruit and vegetables belong to the high-fibre items. Particularly their skin and fibres are absorbed as dietary fibres. Whole-grain cereals are mainly used to produce insoluble polysaccharides which are not readily degradable by bacteria, while fruit, potatoes and vegetables (especially legumes) are mainly used to produce soluble polysaccharides which are readily degradable by bacteria. Thus, some components are converted by microorganisms of the large intestine and others are excreted unchanged with the stool. Fibre-rich food items also contain a high proportion of trace minerals and B vitamins. However, this only applies if the grain has been subject to minimal refinement or processing, for example, it has been harvested or prepared in whole-grain form. In that case the nutrient density is higher.

Where can I find carbohydrates?

In

- whole grains: for example wheat, rye, millet, oats, barley, rice, corn, quinoa, amaranth, spelt, buckwheat, green spelt and so on
- potatoes, sweet potatoes,
- legumes (e.g. beans, lentils, peas),
- fruit and vegetables and
- dairy products.

“Through the day with energy”

Healthy nutrition

Work sheet

Proteins

Please read the text on proteins listed below carefully. Then answer the following questions:

- Which food items contain proteins?
- Which food items are particularly suitable to fulfill protein requirements?
- Can you think of any other food item that may not have been listed?

Then write the most important information from the text and your considerations on a pin board/flip chart. Introduce them now.

If necessary, look up unknown terms in the issued handouts.

Proteins

What are proteins?

Considering intensive muscle work during dancing training loads, a certain protein requirement must also be met. Proteins are not only important for maintaining and building muscle mass, they are also important for

- the optimisation of muscle strength,
- the body composition,
- the prevention of catabolic ('degrading') metabolism
- and to ensure optimal regeneration after the load.

Furthermore, proteins are essential for enzyme and hormone production.

Bones, muscle fibres, tissues, ligaments, tendons and skin are made up of structural proteins.

Proteins consist of amino acids. Some of them are indispensable for the organism and have to be supplied from dietary sources.

Proteins are therefore not primarily energy suppliers for the body, but rather an important building material.

How much protein do I need?

The recommended daily intake of protein is 0.8 g/kg body weight per day. It has not so far been proven that increased physical strain leads to increase protein requirement. Only if muscles are to be built up explicitly, the need may rise to 1.2 g/kg body weight.

After a physical load, a protein-rich, fat-reduced meal is recommended to build up muscles. It has been proven that, for example, protein intake immediately two hours before and/or after a physical load has a positive influence on muscle build-up or muscle regeneration.

Which food items contain proteins?

A high protein quality is achieved by the fact that animal and vegetable proteins each make up 50% of the protein supply. Important sources of protein are milk and dairy products, eggs, fish and meat as well as legumes, seeds, nuts and soy proteins. For vegetarians, who do not eat animal products, the intake of proteins should be increased by 10 to 20 %. The reason for this is the differences in the bioavailability (digestibility) of plant and animal proteins. Vegetable proteins are usually less bioavailable.

For ovo-lacto-vegetarians this is unproblematic, as long as combinations of for example egg and potato, milk and grain or egg and milk are consumed. In addition, the selection of protein-rich, vegetable foods should be varied in order to cover the recommended intake. If the consumption of dairy products and eggs is also avoided, it may be necessary to add supplements. A medical doctor or nutritionist should be consulted for this purpose.

“Through the day with energy”

Healthy nutrition

Work sheet

Fats

Please take a look at the text below on fats and read it carefully. Answer the following questions:

- Which food items contain fats? (saturated or unsaturated)
- Which food items are particularly suitable for the absorption of unsaturated fats?
- Can you think of other food items that may not be listed?

Then write the most important information from the text and your considerations on a pin board/flipchart. Introduce them now.

If necessary, look up unknown terms in the handouts provided.

Fats

What are fats?

Dietary fats (triglycerides) are the most important sources of energy after progressive loads, usually after completing a 90 to 180-minute, moderate workout. Fats can be ingested in the form of vegetable or animal foods. With an energy content of 9 kcal/g, dietary fats are important sources of energy and have the highest energy density compared to other energy sources.

Dietary fats are carriers of fat-soluble vitamins (A, D, E, K). At the same time, they are also carriers of flavors and aromas that make fat and foods made from it popular food items. This applies in particular to food items containing so-called “invisible” or “hidden” fats. These include, for example, fatty sausages and cheeses, nuts, cakes, sauces, cookies and so on.

Fats are essential for hormone production, cell structure building and protection against inflammatory processes. In addition, they form subcutaneous fat tissue and organ fat, which protects organs and finally the organs/body from mechanical action/cold action. Satiety and production of heat following a meal (postprandial thermogenesis) are significantly lower after the absorption of fats than when eating proteins or carbohydrates. This is often associated with the development of obesity, as more is usually consumed, but the energy density of 9 kcal/g for fats is also higher than for carbohydrates or proteins with 4 kcal/g each.

The supply of fat is not a limiting factor for the performance of the muscles, because there is no limit for the body’s own fat stores.

The digestion of fat-rich meals lasts longer than that of carbohydrate-rich meals. Therefore, these meals should not be taken immediately before training or during training.

What are saturated and unsaturated fatty acids?

Dietary fats provide various fatty acids. These can be saturated, monounsaturated or polyunsaturated. The latter have shown themselves preferable as sources of dietary fat, as they positively influence the function and properties of cell membranes and have a positive effect on the immune system. Unsaturated fatty acids are found mainly in vegetable oils, whereas saturated fatty acids are more found in animal fats (exception: fish). Vegetable fats from cold-pressed oils, nuts and seeds as well as the consumption of fish (1–2 times per week) are preferable to the consumption of hidden fats and animal fats from meat and sausages.

About two thirds of the daily fat intake should be covered by the consumption of unsaturated fatty acids.

Which food items mainly contain fat?

Fat suppliers are:

- high-quality, cold-pressed vegetable oils, such as olive oil, rapeseed oil, walnut oil, linseed oil and many more
- nuts and seeds
- rich sea fish: salmon, gilthead, mackerel
- meat
- dairy products
- spreadable fats such as butter or margarine

“Through the day with energy”

Healthy nutrition

Work sheet

Micronutrients

Take a look at the text below on micronutrients and read it carefully. Please answer the following questions:

- Which food items contain the listed micronutrients?
- Which food items are particularly suitable to meet the need for micronutrients?
- Can you think of other food items that may not have been listed?

Then write the most important information from the text and your considerations on a pin board/flip chart. Introduce them now.

If necessary, look up unknown terms in the handouts provided.

Micronutrients

What are micronutrients?

Micronutrients are vitamins and minerals. Vitamins include water-soluble vitamins such as vitamin C and all B vitamins as well as fat-soluble vitamins such as vitamins E, D, K and A. An excess of water-soluble vitamins is excreted via the urine. Fat-soluble vitamins, on the other hand, are stored in fatty tissue and the liver. This should be taken into account when taking dietary supplements.

The minerals category includes the so-called bulk elements, of which the body needs > 50 mg/kg body weight per day, and trace elements, of which the organism needs < 50 mg/kg body weight per day. The bulk elements include, for example, magnesium, calcium, sodium, potassium or chloride. Trace elements include iodine, zinc, iron, manganese, or selenium.

How do I get micronutrients?

A need-based supply of vitamins and minerals is crucial for the functioning of enzyme systems, for the maintenance of the immune system and the body structures. The need can be covered with an adequate energy supply through a balanced diet on a weekly average, considering the additional need due to losses in sweat. The needs can be met by consuming five portions of fruit and vegetables (600 g) per day with a corresponding variety of choices.

The micronutrients magnesium, potassium, iron, zinc and B vitamins require special attention, since they are indispensable for the metabolism of the macronutrients (for example carbohydrates) and can only be stored in the body for a limited period of time.

“Through the day with energy”

Healthy nutrition

Info sheet/work sheet

Technical terms: nutrition

Amino acids (AS)

Amino acids are organic acids from which proteins are built. For humans, *valine, methionine, leucine, isoleucine, phenylalanine, tryptophan, threonine* and *lysine* are essential amino acids, which means that humans cannot produce them themselves and must therefore ingest them with their food (essential AS).

Cellulose

Cellulose is the main component of plant cell walls. It is the most common organic compound and also the most common *polysaccharide*.

Cholesterol

Cholesterol is a natural substance found in all animal cells. The human body extracts cholesterol from food, but can also produce it itself. Cholesterol is required as a component of cell walls and for the production of vitamin D, hormones and bile acids.

Creatine

Creatine is an organic acid that, among other things, contributes to the supply of energy to the muscles of vertebrates. The additional intake of creatine as a dietary supplement has proven to be useful or at least not detrimental in some sports (weight lifting, sprinting, team sports). Natural sources of creatine are meat and fish.

Dehydration

Dehydration is a lack of water with subsequent disturbance of the body's water balance. There is a lack of fluid and above all a supply of *electrolytes* that are necessary for cell activity. Fluid loss can occur via the lungs (breathing air), kidneys (urine), gastrointestinal tract (bowel movement) or skin (perspiration). The brain reacts to persistent water deficiency with pain signals, which can take the form of muscle pain, indigestion or migraine.

Dietary supplements

Dietary supplements are products that supplement the human metabolism with certain nutrients or active substances. Legally speaking, dietary supplements belong to the category of food in Germany. As the name suggests, they are used to supplement the daily supply of nutrients, especially when there is a deficiency of a certain nutrient. However, they do not replace a healthy and balanced diet.

Electrolytes

Together with vitamins and trace minerals, *electrolytes* form the vital substances of the body (micronutrients). These vital substances must be supplied to the body through food.

Important electrolytes are *sodium, potassium, calcium, magnesium, chloride, phosphate* and *hydrogen carbonate*. The body absorbs electrolytes through food, especially drinks. The excretion of electrolytes in the body takes place via the skin, kidneys and the digestive system. With regard to the distribution of electrolytes in the body, a distinction must be made between *intracellular* (in the cells) and *extracellular* (outside the cells such as in the bloodstream) electrolytes (more precisely: deposition).

Depending on the intake and excretion quantities, electrolyte disorders can occur in the form of electrolyte deficiency or excess electrolyte with pathological consequences (see dehydration).

Some tasks and functions of electrolytes are as follows:

- control of the water balance
- transmission of stimuli in nerve and muscle cells
- compensation of severe salt losses in diarrhoea
- regulation of the pH value
- regulation of fluid exchange between intracellular and extracellular spaces
- building blocks for teeth and bones

Energy drinks

Energy drinks are drinks which, according to the manufacturer, have a stimulating effect on the human organism. Most energy drinks are composed of ingredients such as water, sugar, *caffeine, taurine*, colorants, B vitamins, carbonic acid and synthetic flavors. Advertised performance effects of energy drinks include sports and mental effects, *aerobic* stamina performance, *anaerobic* strength and stamina performance as well as the increase of speed and coordination. Among others, health risks of energy drinks are seen by the Federal Institute for Risk Assessment in connection with caffeine, taurine, sugar (thereby high tooth enamel load) and in combination with alcohol.

Nevertheless, there are also healthy alternatives with minerals, vitamins, plant extracts and so on.

Enzymes

Enzymes are mostly protein molecules that can accelerate biochemical reactions in the body (catalysts).

Fast food

Fast food is prepared food for rapid consumption. The time period between placing an order and receiving the product is usually less than 10 minutes. Like the term “junk food”, fast food has a negative connotation. Originally, fast food was considered the embodiment of the American way of life. Rationality and functionality of food preparation and intake are at the forefront of fast food.

Examples of fast food products are:

- chicken wings
- hot dogs, hamburgers, cheeseburgers

- fish and chips, French fries
- pizza, doner kebab, sandwiches
- fried sausage – and German Currywurst

Based on convenience food as well as refrigerated or deep-frozen goods, deep fryers, microwaves or grills are often the means of preparing fast food. Fast food critics often criticise the associated health risks (symptoms of malnutrition, low nutritional value) and lack of environmental protection (throwaway society, mountains of rubbish). In contrast to fast food, there is also a countermovement called *slow food*.

Fatty acids

Fatty acids are a group name for *carboxylic acids*, i.e. carbonaceous acids, and are components of fats and oils. They can be distinguished according to their chemical chain length (short, medium and long-chain carbon atoms) and according to the degree of saturation (saturated and unsaturated fatty acids).

Fructose

Fructose is a naturally occurring chemical compound that belongs to the group of *monosaccharides* (simple sugars).

Fructose is found in sweet fruits, honey or together with glucose in the form of household sugar (*sucrose*).

Glucose

Glucose is the most widespread and biologically most important *monosaccharide* (simple sugar). It is a carbohydrate and occurs for example in honey or fruit.

Glycogen

Glycogen, also called animal starch, is a branched, water-soluble *polysaccharide* (multiple sugar), which is composed of glucose units. It is the storage form of carbohydrates in animals and human liver and muscles. This storage is used, for example, for short, rapid efforts or in the event of hunger. The so-called glycogenolysis (decomposition of glycogen into glucose) provides the organism with glucose again.

Hypoglycaemia

In *hypoglycaemia*, the blood sugar level drops below an age-dependent threshold (too low a proportion of glucose in the blood). Colloquially, hypoglycaemia is also known by the name “sugar shock”. *Hypoglycaemia* can be caused, for example, by *diabetes mellitus*. However, hypoglycaemia can also occur very quickly without an existing disease if too little or nothing has been eaten or if intensive training without subsequent energy intake has taken place. Frequently, hypoglycaemia manifests itself in sweating, dizziness or lack of concentration.

Lactic acid

Lactic acid (technical term: lactate) is a *hydroxycarboxylic acid* found in sweat, blood, muscle serum, the kidneys, gall bladder and saliva. Lactic acid is a metabolic product of lactic acid bacteria. Sour milk products such as sour milk, yoghurt, kefir and buttermilk are produced directly by lactic acid fermentation. Lactic acid is used as a food additive (E270) in the form of acidifier for bakery and confectionery products in the food and luxury food industry. One of the functions of lactic acid is to prolong the shelf life of foods by preventing the bacteria that cause spoilage from multiplying.

However, lactic acid is also produced when *glucose* is incompletely degraded (*anaerobic glycolysis*) to produce energy. Then it often accumulates in the muscle and leads to fatigue.

Lactose

Lactose (disaccharide/double sugar), also known as milk sugar, is found in milk and milk products. The body's own enzyme lactase is necessary for the utilisation of *lactose*. If there is a lactase incompatibility, lactose cannot be digested. In this context one speaks of lactose intolerance. Some functions of lactose are to provide energy, support *calcium absorption* and positively influence microflora (colonisation of the colon with bifidobacteria).

Legumes

Pulses, also known as *legumes*, are carbohydrate and protein-containing plant foods. They include peas, beans, lentils and lupine.

Metabolism

Metabolism refers to the absorption, transport and chemical transformation of substances in an organism as well as the release of metabolic waste products into the environment. Without a healthy diet and a functioning metabolism, the human body with its cells, tissues and organs is not functional and various complaints and diseases can result. Catalytic enzymes are essential in metabolic processes. Depending on the functional area, the metabolism is divided into hunger, fat, energy (e.g. carbohydrate metabolism) or protein metabolism.

Saturated fatty acids

From a chemical point of view, *saturated fatty acids* are carbon acids that have single bonds between carbon atoms and can therefore no longer absorb or bind another atom. They're saturated. Saturated fatty acids are predominantly found in fats of animal origin (butter, meat, sausages, coconut fat and so on). High consumption of saturated fats is considered a risk for cardiovascular disease.

Trace minerals

Trace minerals are chemical elements, which are indispensable for living beings and should be taken in mass proportions of < 50 mg/kg body weight with the daily food. These include, for example, *iron, iodine, zinc, copper, selenium, fluorine, chromium or manganese*.

Unsaturated fatty acids

Unsaturated fatty acids are, chemically speaking, carboxylic acids that have some or more double bonds between carbon atoms and can therefore absorb or bind hydrogen atoms. They're unsaturated. Unsaturated fatty acids are predominantly found in fats of vegetable origin (walnut oil, rapeseed oil, sunflower oil, linseed oil and so on). A high consumption of unsaturated fats is associated with protective properties for the cardiovascular and immune system. The most important unsaturated fatty acids are *omega-6 fatty acids* such as linoleic acid or *omega-3 fatty acids* such as linolenic acid or eicosapentaenoic acid.

Vitamins

Vitamins are organic compounds that the organism does not need as energy sources but for other vital functions. The organism needs these in only small quantities. However, a vitamin deficiency can have many negative effects on the functions of the metabolism.

Vitamins must be ingested with food. Some vitamins are supplied to the body as precursors, as so-called provitamins, which the body only then converts into the active form. Vitamins are divided into fat-soluble (*lipophilic*) and water-soluble (*hydrophilic*) vitamins. B vitamins and vitamin C are among the water-soluble vitamins. Fat-soluble vitamins include E, D, K and A. Chemically, vitamins do not form a uniform group of substances. Since vitamins are rather complicated organic molecules, they do not occur in inanimate nature. Vitamins must first be formed by plants, bacteria or animals.



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