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**MINISTRY OF HEALTH OF UKRAINE**  
**ODESA NATIONAL MEDICAL UNIVERSITY**

Faculty: international  
Department of Pediatrics

APPROVED  
Vice-rector for scientific and educational work  
*[Signature]*  
Eduard BURIACHKIVSKIY  
" 01 " 09 2024



**METHODICAL RECOMMENDATION FOR THE PRACTICAL LESSON**  
**FROM THE ELECTIVE EDUCATIONAL COMPONENT**

Faculty international, course 6 \_\_\_\_\_

Selective educational component - " **Vaccination in children and adults**"

**Practical class №1, 2, 3 Topic 1. Work on the organization and conduction of preventive vaccinations in children.**

**Practical class №4,5,6. Topic 2. Methodology and technique of preventive vaccinations.**

**Practical class №7,8,9. Topic №3. Adverse events during vaccination.**

**Practical class №10,11,12. Topic №4. Allergic reactions during vaccinations**

**Practical class №13,14,15. Topic №5. Development of communication skills during vaccination of children.**

Approved:

Meeting of the Department of Pediatrics \_\_\_\_\_

Odesa national medical university

Protocol № 1 of " 29 " 08 2024

Head of the department \_\_\_\_\_ (Mykola ARYAYEV)

*[Signature]*  
(signature)

(name, surname)

2024

Перезатверджено:

Засідання кафедри педіатрії

Одеський національний медичний університет

Протокол № 1 від 26 08 2025 р.

Завідувач кафедри  Микола АРЯЄВ

*Department of Pediatrics, Odesa national medical university  
selective component " Vaccination in children and adults"*

*(indicate surnames, scientific degrees, scientific titles and positions of developers; everyone who teaches the specified academic discipline must be among the developers)*

Developers:

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*Note.* In the case of publication of methodological developments as an independent printed work, the academic council of the faculty provides a recommendation for publication in the presence of two reviews, one of which is external — from a reviewer of another institution of higher education.

**Practical lesson № 1,2,3**

**Topic: Work on the organization and conduction of preventive vaccinations in children.**

Vaccination according to the calendar. Classification of vaccines. Mandatory and recommended vaccines. Informed consent for vaccination.

**Purpose:** To deepen knowledge and master the skills of organization and conduction of preventive vaccinations in children and vaccination according to the calendar, obtained in the course of studying the subject; promoting the development of creative thinking. The ability to logically express and argue one's thoughts, to listen to each other, to criticize productively.

**Basic concepts:** Vaccination. Vaccination calendar. Mandatory vaccines. Recommended vaccines. Recommended vaccines.

**Equipment:** a mannequin for intramuscular, subcutaneous and intradermal injection, syringes, needles, antiseptic wipes, box for safe disposal, gloves.

**Study time:** 6 hours

**Plan**

I. Organizational moment (greetings, checking the audience, the message of the topic, the purpose of the lesson, the motivation of students to study the topic).

II. Control of basic knowledge (frontal survey on basic terminology)

Questions to check basic knowledge on the topic of the seminar:

1. Communication with the child's mother regarding preparation and vaccination
- 2) Communication with the child's mother regarding the vaccination schedule.
- 3) Communication with the child's mother regarding vaccines

Discussion of theoretical issues:

1. Preparation and vaccination
2. Vaccination calendar.
3. Planned vaccination
4. Vaccination with mandatory vaccines

Discussion of theoretical issues can take place in the form of role-playing, answers to questions, debates, discussions, reviewing the applicant's answers, etc.

Questions to test basic knowledge on the topic of the lesson:

1. Order of the Ministry of Health of Ukraine "On the procedure for carrying out prophylactic vaccinations in Ukraine and quality control and circulation of medical immunobiological preparations".
2. Types of vaccines: live, inactivated.
3. Preparation for vaccination.
4. Vaccination with mandatory vaccines.
5. Drawing up a vaccination schedule for children according to the schedule.

III. Formation of professional abilities and skills: mastering the general rules and skills of vaccination in children

IV. Summing up

#### **V. List of recommended reading:**

1. Nelson Textbook of Pediatrics / R. M. Kliegman [et al.]; ed. R. E. Behrman. - 21th ed. - Edinburgh [etc.]: Elsevier, 2020. - Vol. 1. – LXXV.
2. Nelson Textbook of Pediatrics [Text] / R. M. Kliegman [et al.]; ed. R. E. Behrman. - 21th ed. - Edinburgh [etc.]: Elsevier, 2020. - Vol. 2. - LXXV.

#### **Additionally**

1. E-learning course on Vaccine Safety Basics. Electronic vaccine safety training course <http://vaccine-safety-training.org/>
2. WHO Global Vaccine Safety Page [https://www.who.int/vaccine\\_safety/publications/en/](https://www.who.int/vaccine_safety/publications/en/)
3. ACIP General Best Practice Guidelines for Immunization | CDC
4. World Health Organization <https://www.who.int>
5. General principles for vaccine scheduling [cdc.gov/vaccines/hcp/acip-recs/general-recs/timing.html](https://www.cdc.gov/vaccines/hcp/acip-recs/general-recs/timing.html)

#### **Electronic information resources**

1. <http://moz.gov.ua>
2. <http://pediacalls.com/e-books/nelson-textbook-of-pediatrics-21st-edition/>
3. <https://www.ama-assn.org/about>
4. <https://www.who.int/>
5. <https://www.ipa-world.org/>
6. <https://www.cdc.gov/nhsn/pdfs/pscmanual/6pscvapcurrent.pdf>

#### **Practical lesson № 4,5,6**

**Topic: Methodology and technique of preventive vaccinations.** Organization of the vaccination office. Vaccine administration technique. Combination of drugs for vaccination. Vaccination of children with a violation of the calendar.

**Purpose:** To deepen knowledge and master the skills of methodology and technique of preventive vaccinations, organization of the vaccination room, vaccine administration technique, obtained in the course of studying the subject; promoting the development of creative thinking. The ability to logically express and argue one's thoughts, to listen to each other, to criticize productively.

**Basic concepts:** Vaccination. Vaccination calendar. Mandatory vaccines. Recommended vaccines.

**Equipment:** a mannequin for intramuscular, subcutaneous and intradermal injection, syringes, needles, antiseptic wipes, box for safe disposal, gloves.

**Study time:** 6 hours

#### **Plan**

I. Organizational moment (greetings, checking the audience, the message of the topic, the purpose of the lesson, the motivation of students to study the topic).

II. Control of basic knowledge (frontal survey on basic terminology)

1. Communication with the child's mother regarding the methods and techniques of preventive vaccinations
2. Communication with the mother of the child, violation of the vaccination calendar
3. Communication with the child's mother about the types of vaccines

Discussion of theoretical issues:

1. Preparation and vaccination
2. Vaccination calendar.
3. Types of vaccines
4. Vaccine administration technique
5. Vaccination with mandatory and recommended vaccines
6. Vaccination of children with a calendar violation

Discussion of theoretical issues can take place in the form of role-playing, answers to questions, debates, discussions, reviewing the applicant's answers, etc.

Questions to test basic knowledge on the topic of the lesson:

1. Order of the Ministry of Health of Ukraine "On the procedure for carrying out prophylactic vaccinations in Ukraine and quality control and circulation of medical immunobiological preparations".
2. Types of vaccines: mandatory, recommended.
3. Organization of the vaccination office.
4. Preparation for vaccination.
5. Vaccination with mandatory and recommended vaccines.
6. Vaccine administration technique.
7. Combination of drugs for vaccination
8. Vaccination of children with a calendar violation

III. Formation of professional abilities and skills: mastering the general rules and skills of vaccination in children

IV. Summing up

#### **V. List of recommended reading**

*I. Nelson Textbook of Pediatrics / R. M. Kliegman [et al.]; ed. R. E. Behrman. - 21th ed. - Edinburgh [etc.]: Elsevier, 2020. - Vol. 1. – LXXV.*

*2. Nelson Textbook of Pediatrics [Text] / R. M. Kliegman [et al.]; ed. R. E. Behrman. - 21th ed. - Edinburgh [etc.]: Elsevier, 2020. - Vol. 2. - LXXV.*

**Additionally**

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*selective component " Vaccination in children and adults"*

1. E-learning course on Vaccine Safety Basics. Electronic vaccine safety training course  
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2. WHO Global Vaccine Safety Page [https://www.who.int/vaccine\\_safety/publications/en/](https://www.who.int/vaccine_safety/publications/en/)

3. ACIP General Best Practice Guidelines for Immunization | CDC

4. World Health Organization <https://www.who.int>

5. General principles for vaccine scheduling [cdc.gov/vaccines/hcp/acip-recs/general-recs/timing.html](https://www.cdc.gov/vaccines/hcp/acip-recs/general-recs/timing.html)

### **Electronic information resources**

1. <http://moz.gov.ua>

2. <http://pediacalls.com/e-books/nelson-textbook-of-pediatrics-21st-edition/>

3. <https://www.ama-assn.org/about>

4. <https://www.who.int/>

5. <https://www.ipa-world.org/>

6. <https://www.cdc.gov/nhsn/pdfs/pscmanual/6pscvcapcurrent.pdf>

### **Practical lesson № 7,8,9**

**Topic: Complicated course of the post-vaccination period.** Post-vaccination reactions. Post-vaccination complications. Vaccination Adverse Event Surveillance Notifications and Guidelines. Notification of NPPI. Rapid response groups. Vaccine safety surveillance.

**Purpose:** To deepen knowledge and master the skills of adverse events during vaccination, obtained in the course of studying the subject; promoting the development of creative thinking. The ability to logically express and argue one's thoughts, to listen to each other, to criticize productively.

**Basic concepts:** Adverse Immunization Events (AEs). Complicated course of the post-vaccination period. Post-vaccination reactions. Post-vaccination complications. Post-injection abscess. Subcutaneous cold abscess. Lymphadenitis. Keloid scar. Reporting of adverse events during immunization. Rapid response groups. Vaccine safety surveillance.

**Equipment:** a mannequin for intramuscular, subcutaneous and intradermal injection, syringes, needles, antiseptic wipes, box for safe disposal, gloves.

**Study time:** 6 hours

### **Plan**

I. Organizational moment (greetings, checking the audience, the message of the topic, the purpose of the lesson, the motivation of students to study the topic).

II. Control of basic knowledge (frontal survey on basic terminology)

Questions to test basic knowledge on the topic of the lesson:

1) Adverse events during immunization: types, causes

2) Tactics of the doctor in case of a complicated course of the post-vaccination period

3) Prevention and treatment of post-vaccination reactions

- 4) Post-vaccination complications: types, causes
- 5) Doctor's tactics for post-vaccination complications
- 6) Prevention and treatment of post-vaccination complications
- 7) Reporting adverse events during immunization.
- 8) Tactics of the doctor when detecting adverse events during immunization
- 9) Surveillance of vaccine safety

Discussion of theoretical issues:

1. Causes and possible consequences of adverse events during vaccination
2. Complicated course of the post-vaccination period.
3. Post-vaccination reactions (local, general, group).
4. Causes and possible consequences of post-vaccination complications
5. Post-injection abscess. Subcutaneous cold abscess. Lymphadenitis. Keloid scar
6. Treatment and prevention of post-vaccination complications
7. Provision of spontaneous reports on cases of adverse events during the use of the vaccine
8. Automated information system for pharmacovigilance
9. Observation after vaccination
10. Supervision of vaccine safety

Discussion of theoretical issues can take place in the form of role-playing, answers to questions, debates, discussions, presentations with reports, abstracts, discussion of reports and abstracts, review of student answers, etc.)

III. Formation of professional abilities and skills: mastering the general rules and skills of vaccination in children

IV. Summing up

## **V. List of recommended reading**

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### **Additionally**

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4. World Health Organization <https://www.who.int>

5. General principles for vaccine scheduling [cdc.gov/vaccines/hcp/acip-recs/general-recs/timing.html](https://www.cdc.gov/vaccines/hcp/acip-recs/general-recs/timing.html)

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6. <https://www.cdc.gov/nhsn/pdfs/pscmanual/6pscmapcurrent.pdf>

### **Practical lesson № 10,11,12**

#### **Topic №3: Allergic reactions during vaccinations.**

**Purpose:** To deepen knowledge and master the skills of assessing the physical development of newborn children, obtained in the course of studying the subject; promoting the development of creative thinking. The ability to logically express and argue one's thoughts, to listen to each other, to criticize productively.

**Basic concepts:** Anaphylactic shock. Tactics of a doctor in case of anaphylactic shock. Allergic reactions. Acute urticaria. Quincke's edema. Lyell's syndrome. Stevens-Johnson's syndrome.

**Equipment:** a mannequin for intramuscular, subcutaneous and intradermal injection, syringes, needles, antiseptic wipes, box for safe disposal, gloves.

**Study time:** 6 hours

#### **Plan**

I. Organizational moment (greetings, checking the audience, the message of the topic, the purpose of the lesson, the motivation of students to study the topic).

II. Control of basic knowledge (frontal survey on basic terminology)

Questions to check basic knowledge on the topic of the seminar:

1. Classification of allergic reactions during vaccinations
- 2) Criteria of anaphylactic shock
- 3) Anaphylactic shock clinic
- 4) Doctor's tactics in case of anaphylactic shock
- 5) Acute urticaria
- 6) Angioedema
- 7) ) Lyell's syndrome.
- 8) Stevens-Johnson syndrome

Discussion of theoretical issues:

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1. Anaphylactic shock (diagnosis, differential diagnosis).
2. Provision of emergency aid in case of anaphylactic shock.
3. Criteria for the occurrence and clinic of urticaria
4. Criteria for occurrence and clinic of Quincke's edema
5. First aid algorithm for allergic reactions not related to anaphylaxis (hives, angioedema).
6. Criteria for the occurrence of allergic reactions not related to anaphylaxis: Lyell, Stevens-Johnson syndrome
7. Clinic of allergic reactions not related to anaphylaxis: Lyell, Stevens-Johnson syndrome
8. First aid algorithm for allergic reactions not related to anaphylaxis: Lyell, Stevens-Johnson syndrome

Discussion of theoretical issues can take place in the form of role-playing, answers to questions, debates, discussions, presentations with reports, abstracts, discussion of reports and abstracts, review of student answers, etc.)

Questions to test basic knowledge on the topic of the lesson:

1. Anaphylactic shock (diagnosis, differential diagnosis).
2. Provision of emergency aid for anaphylactic shock.
3. Tactics of a doctor when anaphylactic shock is detected during vaccination.
4. Acute urticaria.
5. Quincke edema.
6. Tactics of the doctor when detecting allergic reactions during vaccination.
7. Lyell's syndrome.
8. Stevens-Johnson syndrome.
9. Doctor's tactics when detecting allergic reactions not related to anaphylaxis: Lyell, Stevens-Johnson syndrome.

III. Formation of professional abilities and skills: mastering the general rules and skills of vaccination in children

IV. Summing up

V. List of recommended reading

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5. <https://www.ipa-world.org/>
6. <https://www.cdc.gov/nhsn/pdfs/pscmanual/6pscvcapcurrent.pdf>

### **Practical lesson № 13,14,15**

#### **Topic № 5: Development of communication skills during vaccination of children.**

**Purpose:** To deepen knowledge and master the skills of communicating with parents about the need for vaccination and drawing up an individual vaccination schedule for the child, obtained in the course of studying the subject; promoting the development of creative thinking. The ability to logically express and argue one's thoughts, to listen to each other, to criticize productively.

**Basic concepts:** Vaccination. Vaccination calendar. Individual child vaccination schedule. Anti-vaccinators. Dealing with objections. Counseling before vaccination. Informed consent for vaccination. Vaccination permit.

**Equipment:** a mannequin for intramuscular, subcutaneous and intradermal injection, syringes, needles, antiseptic wipes, box for safe disposal, gloves.

**Study time:** 6 hours

#### **Plan**

I. Organizational moment (greetings, checking the audience, the message of the topic, the purpose of the lesson, the motivation of students to study the topic).

II. Control of basic knowledge (frontal survey on basic terminology)

Questions to check basic knowledge on the topic of the seminar:

- 1) Communication with the child's mother regarding the need for vaccination
- 2) Communication with the child's mother regarding the child's individual vaccination schedule
- 3) Communication with parents who are against vaccination
- 4) Communicating with hesitant parents
- 5) Counseling before vaccination
- 7) Permission for vaccination

8) Communication with the mother regarding informed consent for vaccination.

Discussion of theoretical issues:

1. Necessity of vaccination
2. Drawing up an individual vaccination schedule for the child
3. The key role of medical workers in matters of vaccination
4. Principles and strategies in communicating with anti-vaccinators
5. Informed consent for vaccination.
7. Communication with the mother before vaccination
8. Rules for filling out informed consent for vaccination

Discussion of theoretical issues can take place in the form of role-playing, answers to questions, debates, discussions, presentations with reports, abstracts, discussion of reports and abstracts, review of student answers, etc.)

Questions to test basic knowledge on the topic of the lesson:

1. Indications and results of vaccination.
2. Individual child vaccination schedule.
3. Drawing up an individual vaccination schedule for a child.
4. Myths about vaccination.
5. Anti-vaccinators, principles and strategies in communication with them.
6. Communication with anti-vaccination parents.
7. Counseling before vaccination.
8. Informed consent for vaccination.
9. Communication with the mother before vaccination.

III. Formation of professional abilities and skills: mastering the general rules and skills of vaccination in children

IV. Summing up

### **List of recommended reading**

#### **Basic:**

1. Nelson Textbook of Pediatrics / R. M. Kliegman [et al.]; ed. R. E. Behrman. - 21th ed. - Edinburgh [etc.]: Elsevier, 2020. - Vol. 1. – LXXV.

2. Nelson Textbook of Pediatrics [Text] / R. M. Kliegman [et al.]; ed. R. E. Behrman. - 21th ed. - Edinburgh [etc.]: Elsevier, 2020. - Vol. 2. - LXXV.

#### **Additionally**

1. E-learning course on Vaccine Safety Basics. Electronic vaccine safety training course <http://vaccine-safety-training.org/>

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2. WHO Global Vaccine Safety Page [https://www.who.int/vaccine\\_safety/publications/en/](https://www.who.int/vaccine_safety/publications/en/)
3. ACIP General Best Practice Guidelines for Immunization | CDC
4. World Health Organization <https://www.who.int>
5. General principles for vaccine scheduling [cdc.gov/vaccines/hcp/acip-recs/general-recs/timing.html](https://www.cdc.gov/vaccines/hcp/acip-recs/general-recs/timing.html)

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6. <https://www.cdc.gov/nhsn/pdfs/pscmanual/6pscvcapcurrent.pdf>